TEXTILE TECHNOLOGY DIGEST

VOLUME 3 JANUARY 1946 NUMBER 1

Introduction to Volume 3

Attention is directed to several changes in style and format, introduced chiefly to facilitate use of this publication by readers. Comments and recommendations are invited.

Titles

Full titles, following the short titles which serve as guides for rapid scanning, were introduced experimentally in the last months of 1945. They are for precise identification of original references, particularly in addressing orders or inquiries to publishers, libraries or photocopying services. They will be retained in Volume 3 for abstracts from periodicals, but not for patent abstracts. Identification by nation and number is sufficient in ordering copies of patents; for more formal citations a short descriptive title is acceptable and often preferable to the actual title.

Patent Abstracts

Abstracts of U. S. Patents were written from the claims printed in the *Official Gazette,* until printed copies of U. S. Patents began to arrive promptly enough for abstracting. Since that time abstracts have been written from the full specifications, not from the claims. There are occasional exceptions when patents noted in the *Official Gazette* are not immediately available for abstracting.

Abstracts of British Patents are taken from *Textile Manufacturer,* and of Australian Patents from *Textile Journal of Australia,* until printed copies or official abridgments become available. Beginning with Volume 3, sources of foreign patent abstracts will be cited if they are not from printed copies or official abridgments. The British Patent Office suspended publication of abridgments in September 1939, but will presumably begin again in 1946. It is expected that official abridgments of Swedish and Swiss patents will begin to arrive in 1946.

Format

Beginning with this issue, reference citations at the beginning of abstracts are printed with the first line flush left and all the next lines indented. The abstract begins on a new line, flush left. This is for ease in reading citations alone, or abstracts alone, without searching for the boundary between.

A code for identifying abstracts is introduced in Volume 3. The symbol "TTD: 1-46" after each abstract in this issue signifies "Textile Technology Digest, January 1946." The number will be 2-46 in February, and so on to 12-46 in December. Abstracts clipped for indexing purposes will thus carry their identification with them.

Class and subclass titles are now printed flush left, with numbers set flush right, as an aid to the eye. Subclass titles are omitted when the next higher subdivision has only a few abstracts. Thus the four subtitles under "Inorganic Fibers: Applications," or even the title "Mineral Fibers", "Glass Fiber" and "Applications", might be dropped if they have only two or three abstracts each. The intent is to provide divisions small enough for easy subject scanning, but not so small as to hinder instead of helping.

Scope

The scope of literature coverage is more precisely defined in Volume 3 than in Volume 2. Economics, statistics, management problems and labor relations are outside the scope of *Textile Technology Digest* unless they are discussed in direct relation to technical problems. Agricultural and biological production problems and fiber treatments before reaching the mill are borderline subjects, covered only as they relate to stated interests of the Institute staff or members. Dye manufacture is outside, but application of dyes to textile fibers is inside the range of interest. Related fields of technology, such as paper and inorganic fibers, are covered only in the light of stated interests. The same is true of general articles on science, engineering or research. The printed classification may be consulted as a guide to subject matter coverage.

Classification

A revised classification, effective with Volume 3, is printed in this issue. Separate copies of the classification list are available on request. Changes include a new main class, several new subclasses, deletion of a few subclasses, and a few alterations in sequence.

Literature Sources

A list of periodicals which are currently reviewed is printed in this issue. Most of these periodicals are received in the Institute library; a few are reviewed elsewhere. The German titles in this list are not now being received; they are retained pending the outcome of efforts by U. S. occupation forces to reactivate German scientific and technical publications. The editor of *Textile Technology Digest* has participated in some of these efforts and is in touch with progress. The *Journal für makromolekulare Chemie* has been dropped because its editor is not seeking a license to resume publication. Other titles will be dropped if it appears that they are not to be reactivated. Substantial increases in coverage of foreign literature in 1946 are being arranged through new subscriptions and exchanges.

Classification

This classification list is the basis for the arrangement of abstracts. Articles of general coverage are entered under the main classification. Papers which deal with a more limited and specific part of a subject are placed in an appropriate subclass. Where the original article treats two or more specific topics, the abstract is placed in a more general classification. As examples of this arrangement, the following are cited: An article comparing the properties of all organic fibers is placed under "Organic Fibers I" while another dealing specifically with wool is placed under "Animal Fibers I 2 a." If both wool and silk are mentioned, the abstract is entered in the next more general category, I 2. The subclass titles will be printed for convenience in scanning when the number of abstracts warrants.

I. Organic Fibers (physics, chemistry, manufacture).
  1. Vegetable fibers.
    a. Cotton.
    b. Flax.
    c. Minor fibers (ramie, kapok, milkweed floss, etc.).
    d. Bast fibers (hemp, jute, sisal, etc.).
  2. Animal fibers.
    a. Wool.
    b. Silk.
    c. Hair.
  3. Artificial fibers (derived from natural products).
    a. Cellulosic rayons.
    b. Protein fibers.
  4. Synthetic fibers (made from synthetic high polymers).
    a. Nylon type (linear polymers).
    b. Vinyl resin type.
    c. Condensation resins.
  5. Fiber applications (not in yarns or fabrics).
    a. Insulation (heat, sound or electric).
    b. Plastic filler.
    c. Coated (or impregnated) products.
    d. Laminates.

II. Inorganic Fibers (physics, chemistry, manufacture).
  1. Mineral fibers (asbestos, slag wool, mineral wool, etc.).
  2. Glass fiber.
  3. Applications (not in yarns or fabrics).
    a. Insulation (heat, sound or electric).
    b. Plastic filler.
    c. Coated (or impregnated) products.
    d. Laminates.

III. Fiber to yarn (processes and machinery).
  1. Fiber preparation.
    a. Breaking; opening.
    b. Cleaning.
    c. Carding.
    d. Drawing.
  2. Spinning (including doubling and twisting).
    a. Cotton (or any fibers on the cotton system).
    b. Wool (or any fibers on the wool system).
    c. Silk.
    d. Rayon.
    e. Bast fibers.
  3. Winding.
  4. Yarn processing (mechanical treatments).
  5. Yarn products (thread, yarn, cordage, etc.).
  6. Yarn applications (not in fabrics).
    a. Coated (or impregnated) products.
    b. Laminates.

IV. Yarn to Fabric (processes and machinery).
  1. Yarn preparation (conditioning, etc.).
  2. Warp sizing.
  3. Weaving (processes, machines and products).
    a. Looms.
    b. Loom parts.
    c. Control devices (stop motions, bobbin selectors, etc.).
    d. Fabric construction (woven fabrics and their designs).
    e. Weave defects.
  4. Knitting.
    a. Knitting machines.
    b. Knitting machine parts.
    c. Control devices (stop motions, etc.).
    d. Fabric construction (knit fabrics, patterns, etc.).
    e. Knitting defects.
  5. Pile fabrics.
  6. Narrow fabrics (braid, tape, ribbons, webbing, etc.).
  7. Fancy fabrics (laces, embroidery, etc.).
  8. Fabric processing (mechanical).
  9. Fabric applications.
    a. Insulation (heat, sound or electric).
    b. Coated (or impregnated) products.
    c. Laminates.
    d. Specialty uses (hospital products; mechanical goods, etc.).

V. Chemical Raw Materials.
  1. Plastics.
    a. Cellulose derivatives.
    b. Natural resins.
    c. Synthetic resins.
    d. Plasticizers.
  2. Elastomers.
    a. Natural rubber (raw and vulcanized; rubber dispersions).

b. Synthetic rubbers (diene polymers).
c. Synthetic elastomers.
3. Adhesives.
4. Surface-active compounds (detergents; textile auxiliaries).

VI. Chemical Processing (methods, materials, equipment).

1. Preparation.
a. Scouring (including kier boiling, degumming silk, etc.).
b. Washing.
c. Drying.
d. Conditioning.
2. Weighting.
3. Milling; fulling.
4. Acid baths (carbonizing, etc.).
5. Alkali baths (mercerizing, etc.).
6. Sizing.
7. Finishing.

VII. Color (processes, materials, equipment).

1. Bleaching.
2. Dyeing.
a. Direct dyeing.
b. Developed dyeing.
c. Vat dyeing.
3. Printing.
a. Dye printing.
b. Pigment printing.
4. Color measurement.
5. Color defects (bleaching faults; dye failures, etc.).

VIII. Proofing (processes, materials, equipment).

1. Waterproofing (water repellency; moisture-proofing).
2. Insectproofing.
3. Rotproofing (all forms of microbiological attack).
4. Flameproofing.
5. Creaseproofing.
6. Shrinkproofing.
7. Stabilizing (against any form of solvent or chemical attack).

IX. Testing and analysis (methods, apparatus and reagents).

1. Physical properties (data and measurements).
a. Fiber testing.
b. Yarn testing.
c. Fabric testing (including foils and films).
d. Dye testing.
2. Chemical analysis (data and measurements).
a. Fiber analyses.
b. Yarn analysis.
c. Fabric analysis (including foils and films).
d. Textile chemicals: analysis.
e. Dye analysis.
3. Biological testing.
4. Specifications.

X. Wastes (prevention, disposal, utilization).

1. Fibrous wastes.
a. Prespinning wastes.
b. Spinning wastes.
c. Weaving wastes.
d. Cloth wastes (from cutting, soilage, defects, etc.).
2. Mill effluents (sewage; stream sanitation).

XI. Cleansing.

1. Laundering.
2. Dry cleaning.

XII. Hazards (accidents and safety measures).

1. Fire hazards (including explosions).
2. Accidents.
3. Occupational hygiene.
4. Deterioration (wear, corrosion and decay).

XIII. Textile Mills.

1. Mill buildings (design and construction).
2. Mill machinery.
3. Mill power.
a. Steam power.
b. Electric power.
c. Combustion engines.
d. Power transmission.
4. Mill materials (handling and transport).
5. Mill lighting.
6. Atmospheric control (heating, air conditioning, etc.).
7. Process control (methods and instruments).
8. Water supply.

XIV. Basic Sciences (topics not directly related to textiles, but significant).

1. Mathematics.
2. Chemistry.
3. Physics.
4. Biology.
5. Engineering.

XV. Textile Research.

1. Government research.
2. Academic research (universities; colleges; textile schools and institutes).
3. Industrial research.

Periodicals Currently Reviewed

(Abbreviations used in reference citations are indicated below titles.)

Acta Physicochimica USSR
Acta. Physicochim.
Alumni Bulletin, Rhode Island School of Design
Alumni Bull., R. I. School of Design
American Dyestuff Reporter
Am. Dyestuff Reptr.
American Journal of Physics
Am. J. Phys.
American Journal of Science
Am. J. Sci.
American Machinist
Am. Machinist
American Paper Converter
Am. Paper Converter
American Society for Testing Materials Bulletin
Am. Soc. Testing Materials Bull.
American Wool and Cotton Reporter
Am. Wool Cotton Reptr.
Analyst
Analyst
Annalen der Chemie (Liebigs)
Ann. Chem. (Liebigs)
Annalen der Physik
Ann. Physik
Annales de chimie
Ann. chim.
Annales de physique
Ann. phys.
Bell Laboratories Record
Bell Labs. Record
Bell System Technical Journal
Bell System Tech. J.
Berichte der deutschen chemischen Gesellschaft
Ber.
Board of Trade Journal
Board of Trade J.
British Chemical Abstracts
Brit. Chem. Abs.
Bulletin of the Institute of Paper Chemistry
Bull. Inst. Paper Chem.
Bulletin of the Lowell Textile Institute
Bull. Lowell Textile Inst.
Bulletin of the New York Public Library
Bull. N. Y. Public Library
Bulletin de la Societe chimique de France (Documentation and Memoires)
Bull. Soc. chim.
Bulletin of the Virginia Polytechnic Institute
Bull. Virginia Polytech. Inst.
Bulletin, Virginia Sections of the American Chemical Society
Bull. Virginia Sections ACS
Calco Technical Bulletin
Calco Tech. Bull.
California Wool Grower
Calif. Wool Grower
Canadian Journal of Research
Can. J. Research
Canadian Patent Office Record
Can. Pat. Office Record
Canadian Textile Journal
Can. Textile J.
Cellulosechemie
Cellulosechem.
Cenco News Chats
Cenco News Chats
Chemical Abstracts
Chem. Abs.
Chemical Age
Chem. Age
Chemical and Engineering News
Chem. Eng. News
Chemical & Metallurgical Engineering
Chem. & Met. Eng.
Chemical Bulletin of the Chicago Section of the American Chemical Society
Chem. Bull. Chicago Section ACS
Chemical Industries
Chem. Industries
Chemical Reviews
Chem. Rev.
(Die) Chemie
Chemie
(Die) Chemische Technik
Chem. Technik
Chemiker-Zeitung
Chem. Ztg.
Chemisches Zentralblatt
Chem. Zentr.
Chemistry & Industry
Chemistry & Indus.
Chemurgic Digest
Chemurgic Digest
Ciba Review
Ciba Rev.
Civil Engineering
Civil Eng.
Colorado Wool Grower and Marketer
Colorado Wool Grower
Congressional Record
Congressional Record
Comptes rendus hebdomadaires des seances de l'academie des sciences
Compt. rend.
Cotton (Atlanta)
Cotton (Atlanta)
Cotton (Manchester)
Cotton (Manchester)
Cotton and Cotton Oil Press
Cotton and Cotton Oil Press
Cotton Literature
Cotton Lit.
Cotton News
Cotton News
Cotton Situation
Cotton Situation

Cotton Trade Journal
Cotton Trade J.
Cumulative Book Index
Cumulative Book Index
Current Information
Current Information
Daily Mill Stock Reporter
Daily Mill Stock Reptr.
Daily News Record
Daily News Record
Del-Chem Bulletin (Delaware Section of the American Chemical Society)
Del-Chem Bull.
DuPont Magazine
DuPont Mag.
Dyer, Textile Printer, Bleacher and Finisher
Dyer
Dyestuffs
Dyestuffs
Electrical Engineering
Elec. Eng.
Electrical World
Elec. World
Electronic Industries
Electronic Industries
Electronics
Electronics
Engineer
Engineer
Engineering
Engineering
Engineering Journal
Eng. J.
Engineering News-Record
Eng. News-Record
Experiment Station Record
Expt. Sta. Record
Fibre and Fabric
Fibre and Fabric
Fibres
Fibres
Fibres, Fabrics & Cordage
Fibres, Fabrics & Cordage
Forschungen zur Geschichte der Optik
Forsch. Geschichte Optik
Fortune
Fortune
Frontier
Frontier
General Electric Review
Gen. Elec. Rev.
Heating, Piping and Air Conditioning
Heating, Piping Air Conditioning
Heating & Ventilating
Heating & Ventilating
Helvetica Chimica Acta
Helv. Chim. Acta
Higher Education
Higher Education
India Rubber World
India Rubber World
Indian Textile Journal
Indian Textile J.
Industrial and Engineering Chemistry, Industrial Edition Analytical Edition
Ind. Eng. Chem. Analyt. Ed.
Industrial Arts Index
Ind. Arts Index
Industrial Bulletin of Arthur D. Little, Inc.
Ind. Bull. A. D. Little, Inc.
Industrial Standardization and Commercial Standards Monthly
Ind. Standardization
Industry & Power
Industry & Power
Ingenieria (Mexico)
Ingenieria
Institute News
Inst. News
Instrumentation
Instrumentation
Instruments
Instruments
Interchemical Review
Interchem. Rev.
International Textiles
Internatl. Textiles
Isotopics (Cleveland Section of the American Chemical Society)
Isotopics
Journal and Proceedings of the Institution of Mechanical Engineers (London)
J. Proc. Inst. Mech. Engs.
Journal of Agricultural Research
J. Agr. Research
Journal of Applied Mechanics
J. Applied Mechanics
Journal of Applied Physics
J. Applied Physics
Journal of Chemical Education
J. Chem. Education
Journal of Chemical Physics
J. Chem. Physics
Journal de chimie physique
J. chim. Phys.
Journal of Engineering Education
J. Eng. Education
Journal of Home Economics
J. Home Econ.
Journal of Organic Chemistry
J. Org. Chem.
Journal of Physical Chemistry
J. Phys. Chem.
Journal of Research of the National Bureau of Standards
J. Res. Natl. Bur. Standards
Journal of Scientific Instruments
J. Sci. Instruments
Journal of the Acoustical Society of America
J. Acoust. Soc. Am.
Journal of the American Chemical Society
J. Am. Chem. Soc.
Journal of the American Society of Agronomy
J. Am. Soc. Agronomy
Journal of the American Waterworks Association
J. Am. Waterworks Assoc.

Journal of the Association of Official Agricultural Chemists
J. Assoc. Official Agr. Chemists
Journal of the Chemical Society
J. Chem. Soc.
Journal of the Franklin Institute
J. Franklin Inst.
Journal of the New England Waterworks Association
J. New England Waterworks Assoc.
Journal of the Optical Society of America
J. Optical Soc. Am.
Journal of the Society of Chemical Industry
J. Soc. Chem. Indus.
Journal of the Society of Dyers and Colourists
J. Soc. Dyers Colourists
Journal of the Society of Industrial Research
J. Soc. Ind. Research
Journal of the Textile Institute
J. Textile Inst.
Jute and Canvas Review
Jute and Canvas Rev.
Kolloid-Zeitschrift
Kolloid-Z.
Kunststoffe
Kunststoffe
Laboratory (Fisher Scientific Co.)
Laboratory
Linens and Domestics
Linens and Domestics
Machine Design
Machine Design
Manufacturers' Record
Mfrs' Record
Mechanical Engineering
Mech. Eng.
Mechanization
Mechanization
Melliand Textilberichte
Melliand Textilber.
Merck's Report
Merck's Report
Mid-South Cotton News
Mid-South Cotton News
Mikrochemie
Mikrochemie
Modern Industry
Modern Ind.
Modern Plastics
Modern Plastics
Monsanto Magazine
Monsanto Mag.
Monthly Catalog of U. S. Public Documents
Monthly Catalog U. S. Public Documents
Monthly Checklist of State Publications, Library of Congress
Monthly checklist of State Publications
National Canvas Goods Manufacturing Review
Natl. Canvas Goods Mfg. Rev.
National Wool Grower
Natl. Wool Grower
Nature
Nature
Nation's Business
Nation's Business
Natural & Synthetic Fibers
Natural & Synthetic Fibers
Official Gazette of the U. S. Patent Office
Official Gaz. U. S. Pat. Office
Oil, Paint & Drug Reporter
Oil, Paint & Drug Reptr.
Paper Mill News
Paper Mill News
Paper Trade Journal
Paper Trade J.
Papier-Fabrikant
Papier-Fabr.
Philosophical Magazine
Phil. Mag.
Physical Review
Phys. Rev.
Physikalische Zeitschrift
Physik. Z.
Plastics
Plastics
Power
Power
Proceedings of the American Society of Civil Engineers
Proc. Am. Soc. Civil Eng.
Proceedings of the Institute of Radio Engineers
Proc. Inst. Radio Engrs.
Proceedings of the National Academy of Sciences
Proc. Natl. Acad. Sci.
Proceedings of the Royal Society (London)
Proc. Roy. Soc.
Product Engineering
Product Eng.
Products & Priorities
Products & Priorities
Publishers' Weekly
Publishers' Weekly
Rayon Organon
Rayon Organon
Rayon Textile Monthly
Rayon Textile Monthly
Rayon Warp Sizing Specialist
Rayon Warp Sizing Specialist
Record of Chemical Progress
Record Chem. Progress
Recueil des travaux chimiques des Pays-Bas
Rec. trav. chim.
Refrigerating Engineering
Refrig. Eng.
Resale
Resale
Resins-Rubbers-Plastics
Resins-Rubbers-Plastics
Review of Scientific Instruments
Rev. Sci. Instruments
Reviews of Modern Physics
Rev. Modern Phys.
Rohm & Haas Reporter
Rohm & Haas Reptr.
Rubber Age (New York)
Rubber Age (N. Y.)

Saco-Lowell Bulletin
Saco-Lowell Bull.
Safety Engineering
Safety Eng.
Science
Science
Scientific Monthly
Sci. Monthly
Sheep and Goat Raiser
Sheep and Goat Raiser
Shirley Institute Memoirs
Shirley Inst. Memoirs
Silk and Rayon
Silk and Rayon
Silk Journal Rayon World
Silk Journal Rayon World
Society of Automotive Engineers Journal
Soc. Automotive Engrs. J.
Southern Knitter
Southern Knitter
Southern Power and Industry
Southern Power and Indus.
Southern Textile News
Southern Textile News
Special Libraries
Special Libraries
Staley Journal
Staley J.
Technical Book Review Index
Tech. Book Rev. Index
Technical News Bulletin of the National Bureau of Standards
Tech. News Bull. Natl. Bur. Standards
Technical Survey
Tech. Survey
Technology Review
Technol. Rev.
Textile Age
Textile Age
Textile Bulletin
Textile Bull.
Textile Colorist and Converter
Textile Colorist
Textile Forum
Textile Forum
Textile Journal of Australia
Textile J. Australia
Textile Manufacturer
Textile Mfr.
Textile Recorder
Textile Recorder
Textile Research Journal
Textile Research J.
Textile Review
Textile Rev.
Textile Weekly
Textile Weekly
Textile World
Textile World
Textil och Konfektion
Textil och Konfektion
Tidsskrift for Textilteknik
Tidsskrift Textilteknik
Transactions of the American Institute of Chemical Engineers
Trans. Am. Inst. Chem. Engrs.
Transactions of the American Society of Mechanical Engineers
Trans. Am. Soc. Mech. Engrs.
Transactions of the American Society for Metals
Trans. Am. Soc. Metals
Transactions of the Faraday Society
Trans. Faraday Soc.
Traveler
Traveler
Weekly Cotton Linters Review
Weekly Cotton Linters Rev.
Weekly Cotton Market Review
Weekly Cotton Market Rev.
Weekly Cotton Weather Bulletin
Weekly Cotton Weather Bull.
Weight Engineering
Weight Eng.
Wool Record and Textile World
Wool Record and Textile World
Zeitschrift für analytische Chemie
Z. analyt. Chem.
Zeitschrift für Elektrochemie
Z. Elektrochemie
Zeitschrift für Instrumentenkunde
Z. Instrumentenkunde
Zeitschrift für Physik
Z. Physik
Zeitschrift für physikalische Chemie
Z. physikal. Chem.
Zeitschrift des Vereins deutscher Ingenieure
Z. Ver. deut. Ing.
Zellwolle und Kunstseide
Zellwolle und Kunstseide

Abstracts

ORGANIC FIBERS I

CELLULOSE STUDIES. I. Reaction of oxycellulose with aqueous acids and alkalies. Eugene Pacsu, Textile Foundation and Princeton Univ. *Textile Research J. 15,* 354-61 (Oct. 1945).

The common opinion that oxycellulose in its aldehyde form is sensitive to cold acid is erroneous. Periodate-oxidized cellulose, when further oxidized with Br in $NaHCO_3$ solution and subjected to acid hydrolysis, gives a 75% yield of glyoxylic acid. The consumption of alkali by periodate-oxidized cellulose is due to certain anionotropic and prototropic changes rather than neutralization of COOH groups. Reaction mechanisms are discussed. TTD:1-46.

FIBERS. Chemical properties of textile fibers. Christopher S. Jones. *Textile Age 9,* No. 10, 44, 49-50, 52 (Oct. 1945).

The molecular structure and chemical properties of natural and artificial fibers are reviewed, with special attention to cellulosic fibers, acetate silk, wool, nylon and Vinyon. TTD:1-46.

FIBER STRUCTURE. Molecular structure of fibres; a review of the present position. W. T. Astbury, Leeds Univ. *J. Textile Inst. 36,* No. 10, P154-5 (Oct. 1945).

A lecture on the structure of fibers as molecular yarns; protein fibers and nonfibrous proteins; fibers from seaweed as compared with cellulose; crystalline-amorphous complex systems, and the place of synthetic fibers in the theory of chain molecules as a factor in fiber structure. TTD:1-46.

FIBER STRUCTURE. X-ray studies of fiber structure. Bertil Olofsson, Swedish Textile Research Institute. *Textil och Konfektion 2,* No. 8, 14-19 (Oct. 1945).

The x-ray method of investigating fiber structure is discussed in principle and in relation to correct interpretation of results. The x-ray studies should be used in conjunction with measurements of birefringence, electron diffraction and other properties which are related to the inner structure of fibers. Use of these methods to follow the effects of mercerization and other processes on fibers is particularly informative. TTD:1-46.

WOOL VS. RAYON. J. B. Speakman. *Textile J. of Australia 20,* 326-7 (Sept. 1945).

Much imaginative engineering is needed to improve scouring machinery for wool and to provide more efficient devices for separating long and short fibers. Some of the comparative merits and demerits of wool, rayon, and the artificial protein fibers are discussed. TTD:1-46.

Vegetable fibers I 1

CELLULOSE OXIDATION. Oxidation of cellulose by sodium hypochlorite in presence of ferrous hydroxide. G. M. Nabar and H. A. Turner, Manchester College of Technology. *J. Soc. Dyers & Colorists 61,* 258-63 (Oct. 1945).

Ferrous hydroxide, deposited on cellulosic fibers, accelerates the oxidation and consequent tendering of the fiber in hypochlorite bleaching baths to about the same extent that tendering is accelerated by the most active vat dyes. The green hydroxide is apparently more active than the white form. Ferric hydroxide under like conditions is practically inert. TTD:1-46.

CELLULOSE OXIDATION. Influence of compounds of iron upon oxidation reactions. H. A. Turner, Manchester College of Technology. *J. Soc. Dyers & Colorists 61,* 255-8 (Oct. 1945).

Certain compounds of Fe actively accelerate the oxidation of cellulose when dyed with vat dyes and exposed to light. A chain reaction theory is applied to the mechanism of this acceleration, and the relative catalytic efficiencies of ferrous and ferric compounds are discussed. Bibliography (39 references). TTD:1-46.

COTTON HANDLING. Will Clayton's cotton. Anon. *Fortune 32,* No. 5, 138-46, 231-2, 234, 237-8; No. 6, 159-63, 231-2, 235-6, 238, 240, 242 (Nov., Dec. 1945).

The complex interrelations between economic and engineering factors in profitable merchandising of raw cotton include many problems of mechanization in handling and processing and of instrumentation in evaluating quality. Round bales, which had some technical merits and demerits, were abandoned (largely for economic reasons) only after a long struggle. Emancipation of cotton grading from the human factor is expected to come largely through photoelectric instruments. TTD:1-46.

COTTON HARVESTER. Louis E. Nickla and Arthur R. Crawford (to International Harvester Co.). USP 2 389 533, Nov. 20, 1945.

The blower in a pneumatic conveyor system for cotton harvesting machines is constructed so that the blades of the rotor do not strike the cotton and so can not break the seeds. Thus loss of oil from the seeds, and consequent loss in grade of the cotton because of oil stains, are prevented and the cotton is efficiently transferred to its receptacle attached to the harvester. TTD:1-46.

COTTON PICKERS. Mechanization of cotton production in the Mississippi Delta; its relation to cotton quality and marketing practices. Francis L. Gerdes, Office of Marketing Services, USDA. *Textile Research J. 15,* 320-1 (Sept. 1945).

Breeding better cottons for machine picking, defoliating, correct timing of the harvesting operation and consequent prevention of deterioration are all helpful to the mechanization of cotton harvesting, but it is still true that the most needed aid to mechanization is the design of efficient cleaning machines for use at the gin. TTD:1-46.

PAPER FROM COTTON. Maurice A. Goldman (to Saco-Lowell Shops). USP 2 389 254, Nov. 20, 1945.

Paper is made from cotton linters, or from longer cotton fiber, by forming a card web and subjecting it to an acid or alkaline bath to gelatinize the surface of the fibers. The card web, thus treated, is passed between squeeze rolls and treated to remove the acid or alkali. TTD:1-46.

PROGRESS REPORTS FROM EXPERIMENT STATIONS, SEASON 1943-44. PROGRAMMES OF EXPERIMENTS, SEASON 1944-45. Empire Cotton Growing Corp., London, 1945; 176 pp.; price 3s. TTD:1-46.

LINEN. Making flax fibers into yarns. E. Ostick. *Fibres 6,* 117-9 (Oct. 1945).

Linen production is reviewed, from the flax harvest through the stages of retting, scutching, hackling and spinning. The short fibers (tow) have numerous uses in cheap, coarse linen products. TTD:1-46.

STORY OF LINEN. Wm. F. Leffett, Chemical Publishing Co., Brooklyn, N. Y. 1945; price $2.75.

Reviewed in *Textile Age 9,* No. 10, 129 (Oct. 1945). TTD:1-46.

CLOTH FROM GRASS. Anon. *Chem. Eng. News 23,* 1768 (Oct. 10, 1945).

News note concerning a new frabric made from ramie grass fiber in China. The cloth is "damp-resistant" and is superior to cotton in resilience and tensile strength. TTD:1-46.

RAMIE. Machine for handling ramie. Anon. *Chem. Eng. News 23,* 1774 (Oct. 10, 1945).

News note concerning a machine for handling green ramie direct from the field and a portable machine for separating the fiber from the accompanying gums and resins. TTD:1-46.

PHORMIUM. Anon. *Fibres 6,* 128 (Oct. 1945).

The harakeke lily, *Phormium tenax,* is cultivated in New Zealand for its fiber which has been largely replaced by sisal for rope making but which has other potential uses. Some progress has been made in the manufacture of wool packs from phormium fiber. Recovery of tow for paper and of fermentable by-products for conversion into industrial alcohol may be a substantial aid in restoring the production of this fiber to its former level in New Zealand. TTD:1-46.

Animal fibers I 2

FEATHER FABRIC. Here is the new chicken feather fabric. B. H. Foster. U. S. Rubber Co. *Textile Colorist 67,* No. 10, 62-63, 95 (Oct. 1945).

Illustrated description of a new fabric made of 65% chicken feathers and 35% rayon staple fiber. The new fabric is not yet in production. It has been shown to be warmer than wool although it washes like cotton. It can be woven, knit or braided in blends with rayon, cotton, wool or nylon. It has excellent dyeing properties. TTD:1-46.

WOOL FIBERS. Growth changes in "tender" wool. W. R. Lang, Gordon Institute of Technology. *J. Textile Inst. 36,* T243-52 (Oct. 1945).

The term "tender wool" designates fibers weakened in tensile strength by fluctuations in diet or growth conditions of the sheep. The occurrence of tender wool has been correlated with changes in fiber thickness due to the same causes and to normal differences in thicknesses as between coarse and fine wool fibers in the same fleece. TTD:1-46.

WOOL PROTEINS. Some chemical aspects of wool protein behavior. Kermit S. LaFleur. *Am. Dyestuff Reptr. 34,* P395-8, 407-14 (Oct. 8, 1945).

Various physicochemical properties of amino acids and proteins are useful in determining structure. Tables are given of the classical, the Zwitterion (Bjerrum) and the acid (Bronsted) dissociation constants of several amino acids. The dissociation diagram of wool on a pH scale is compared with a similar diagram derived from the amino acid composition of the wool and the corresponding dissociation curves of the component diacid or dibasic amino acids. Agreement between the derived dissociations and experimental curves is poor. A method is described for calculating isoelectric points from dissociation data. Atom linkages, composition, minimum molecular weight and reactive groups of wool are discussed. Bibliography (37 references). TTD:1-46.

WOOL. Some relationships between the constitution, properties and uses of wool. J. B. Speakman, Leeds Univ. *Textile J. Australia 20,* 395-8 (Oct. 1945).

Relations of the chemical structure of wool fibers to dyeing behavior, shrinkproofing treatments and sev-

eral varieties of chemical finishing are discussed with particular attention to the disulphide linkages of the wool molecule. TTD:1-46.

Artificial fibers I 3

FIBRO. Need for adequate shrinkage in Fibro. Anon. *Indian Textile J. 56,* No. 661, 61-2 (Oct.); *Silk and Rayon 19,* 1056 (Oct.); *Textile Mfr. 71,* 442 (Oct. 1945).

Many of the defects attributed to fabrics made with Fibro were caused by inadequate shrinkage. Many blended fabrics containing Fibro have a shrinkage capacity of 12% or higher but are stretched only a fraction of this amount in manufacture. No general rule can be stated since the amount of adequate shrinkage may range all the way from 2 to 25%. The shrinkage factor should always be duly considered in blended fabrics containing Fibro. TTD:1-46.

ACETATE RAYON. Clifford I. Haney, Mervin E. Martin and Thomas E. McGoury (to Celanese Corp. of Am.). USP 2 389 195, Nov. 20, 1945.

Wood pulp of excellent quality for making clear transparent cellulose acetate is obtained by digesting the wood with glacial acetic acid to form a low substitute acetate which is then chlorinated and acetylated to a higher degree of substitution. The resulting cellulose acetate is excellent for making rayon film, foils and coating compositions. TTD:1-46.

RAYON. Story of Celanese. Anon. *Mfrs. Record 114,* No. 10, 41, 76, 78, 80-81 (Oct. 1945).

A review of the developments by which acetate rayon was brought into successful large scale commercial production. TTD:1-46.

RAYON PULP. Henry Dreyfus. Can. P. 431 313, Nov. 20, 1945.

Pulping lignocellulosic raw materials by a 2-stage chlorination method in which chlorination products are removed at the end of each stage. TTD:1-46.

TALKS ON RAYON. Cotton and Rayon Merchants' Assoc'n, Spring Gardens, Manchester 2, England; Ed. 2, 1945; 130 pp.; price 12s. 6d.

Reviewed in *Textile Recorder 63,* No. 751, 63; *Silk and Rayon 19,* 1120 (Oct. 1945). TTD:1-46.

VISCOSE. John Wharton (to Courtaulds, Ltd.). Can. P. 431 217, Nov. 13, 1945.

Viscose filaments are coagulated in a bath of H_2SO_4 containing at least 1 metal salt and a water-soluble reaction product of an alkylene oxide with a long chain alcohol or acid (8 C atoms or higher). TTD:1-46.

VISCOSE. Daniel S. Dawson (to Courtaulds, Ltd.). Can. P. 431 219, Nov. 13, 1945.

In coagulating viscose by extrusion into a bath of H_2SO_4 and a metallic salt, crystallization of the metallic salt is inhibited by exposing the extruded filament, before it enters the coagulating bath, to a fine spray of water. TTD:1-46.

WOOD CHEMISTRY. Louis E. Wise. Reinhold Publishing Corp., New York City, 1945; 900 pp.; price $11.00. TTD:1-46.

PROTEIN FIBRES. Fine Aralac fibers aid blending with cotton. C. Mallard Bowden, Textile World. *Textile World 95,* No. 10, 137, 197-8, 200 (Oct. 1945).

A new Aralac fiber with diameter comparable to that of short staple American cotton provides wool-like blends at lower cost than for previous fabrics of similar quality. Humidity control is more important in operating with Aralac than with cotton. TTD:1-46.

PROTEIN FIBERS. Robert L. Wormell (to Courtaulds, Ltd.). USP 2 389 015, Nov. 13, 1945.

Fibers made from casein, soy casein or peanuts are rendered more resistant to sodium carbonate solutions by treatment with a solution of a salt of Zn or Cd in absence of acid. After this treatment sodium carbonate or other mild alkali solutions may be used freely in processing the fibers. TTD:1-46.

Synthetic fibers I 4

NEW FIBERS. Properties of newer textile fibers. P. Larose, Nat'l Research Council of Canada. *Can. Textile J. 52,* No. 21, 42, 58 (Oct. 19, 1945).

Molecular structure is an important factor in the strength, flexibility, elasticity, melting point and water solubility of the new synthetic fibers such as nylon, Vinyon, Saran, Velon, Aralac and Fortisan. TTD:1-46.

PROPERTIES OF SYNTHETIC FIBERS. 21st Annual Synthetics Survey, Textile World, New York City, 1945; price of reprint 25c.

Inserted as pages 117-132 in *Textile World 95,* No. 9 (Sept., 1945). TTD:1-46.

SYNTHETICS. DuPont exhibits war uses of synthetic fibers and plastics. Harry Stenerson. *Chem. Eng. News 23,* 1838-9 (Oct. 25, 1945).

Illustrated description of the Wilmington exhibit by the du Pont Co. of nylon, rayon, neoprene-coated fabrics and other products used in tents, rope, tires, military garments, fluorescent signal panels and many other products. TTD:1-46.

CREPE YARN. George Schneider (to Camille Dreyfus). Can. P. 431 292, Nov. 13, 1945.

Nylon type crepe yarn is produced by steaming the filaments, twisting to 70 turns per inch and weaving into a fabric which is then treated 25 minutes in an aqueous bath at 98°C. TTD:1-46.

LIGHTFAST NYLON. Donald D. Coffman & Halsey B. Stevenson (to E. I. du Pont de Nemours & Co.). USP 2 388 676, Nov. 13, 1945.

The inferior stability of ordinary nylon to light is improved by incorporating a catechol-aldehyde resin in the polyamide composition. The effect is laundry-fast and nylon made in this way is sufficiently stable to sunlight for use in Venetian blind tapes, sailcloth, draperies, umbrellas, upholstery and garments for outdoor wear. TTD:1-46.

NYLON. Charles W. J. Wende (to E. I. duPont de Nemours & Co.). USP 2 389 655, Nov. 27, 1945.

Nylon with high tensile strength and modulus of elasticity, and with low heat extensibility, is obtained by dry heating of nylon filaments or foils under tension above 120°C but at least 30°C below the melting point. TTD:1-46.

NYLON. Elmore L. Martin (to E. I. duPont de Nemours & Co.). USP 2 389 628, Nov. 27, 1945.

Nylon is improved in its chemical reactivity to permit modification of the polymer by chemical treatment. A preferred method is to introduce a mercaptan substituent in the molecular chain of the polymer. High strength and high capacity for cold drawing are among the improved properties of the new nylon compositions. TTD:1-46.

NYLON HOSE. Chadbourn Hosiery Mills convert to nylon. C. Mallard Bowden, Textile World. *Textile World 95,* No. 10, 113-5, 200 (Oct. 1945).

Some of the technical difficulties involved in conversion from rayon to nylon in hosiery manufacture are responsible for delays in supplying the demand for nylon hosiery. Humidity control and preparations for preboarding are among the problems to be solved. TTD:1-46.

NYLON. Robert W. Moncrieff and Edward W. Wheatley (to Celanese Corp. of Am.). USP 2 388 278, Nov. 6, 1945.

A method for recovering polyamides from the reaction system in which they are formed gives improved purity of product and good retention of initial viscosity. The polyamide is extracted from the reaction system with an acid such as 85% formic acid, and precipitated by pouring the solution into 5-10 times its volume of 50% aqueous acetone. TTD:1-46.

POLYESTERS. Carl J. Frosch (to Bell Telephone Laboratories). USP 2 388 318, Nov. 6, 1945.

Polyesters which are useful for making cold drawn filaments, coated or impregnated fabrics and polymer-saturated textile coverings on insulated wire are derived from a glycol and an unsaturated dicarboxylic acid such as dihydromuconic acid. TTD:1-46.

SPINNING PROCESS. Edgar W. Spanagel (to E. I. duPont de Nemours & Co., Inc.). USP 2 385 890, Oct. 2, 1945.

Breakage of cold-drawn nylon type filaments is diminished by homogeneously dispersing in the polyamide composition, before spinning, 0.005 to 0.05% of a finely divided inert substance (nature not disclosed in claims). TTD:1-46.

POLYTHENE. E. I. duPont de Nemours & Co. Brit. P. 568 890. *Textile Mfr. 71,* 449 (Oct. 1945).

The solubility and extrusion behavior of solid ethylene polymers are improved by heating the polymer in absence of oxygen to at least 85°C above the melting point. TTD:1-46.

POLYTHENE FIBERS. Fibres and finishes from polyethylene. Anon. *Fibres 6,* 127-8 (Oct. 1945).
A review of British patents. TTD:1-46.

SYNTHETIC FIBER. Gaetano F. D'Alelio (Can. General Electric Co., Ltd.). Can. P. 431 355, Nov. 20, 1945.

Cold-drawn fibers are made from a copolymer of 40-80% acrylonitrile and another component which may be dibutyl itaconate alone or mixed with another ester such as ethyl itaconate. TTD:1-46.

SYNTHETIC FILAMENTS. Donald L. Wilson (to Courtaulds, Ltd.). Can. P. 431 218, Nov. 13, 1945.

Lustrous filaments of polyvinyl alcohol are obtained by extruding a viscous aqueous solution of polyvinyl alcohol through a spinneret into a coagulating bath of water and an organic liquid which is a solvent for water. TTD:1-46.

SOLUBLE FILAMENTS. Robert P. Roberts, Edgar B. Johnson and Harry H. Taylor (to Henry Dreyfus). Can. P. 431 294, Nov. 13, 1945.

Synthetic filaments and foils are made from partially hydrolyzed polyvinyl acetate and coagulated in a water-miscible organic liquid which is not a solvent for polyvinyl acetate. TTD:1-46.

VINYL POLYMER FILAMENTS. Ray C. Houtz (to E. I. duPont de Nemours & Co.). USP 2 388 325, Nov. 6, 1945.

In making filaments, bristles, tubing, tapes and foils of polyvinyl alcohol by the ammonium sulfate coagulation method the product is improved in quality by

using aqueous acetone (50% by volume) to wash out the ammonium sulfate from the coagulated polymer. TTD:1-46.

Fiber applications — I 5

FLOCK COATINGS. John W. Riggenbach. USP 2 388 999, Nov. 13, 1945.

Flock of different colors is applied to paper or cloth by dividing the flock pans into sections for containing flock of different colors, and carrying the paper or cloth on sectional rolls which fit into the compartments. TTD:1-46.

FELTED FIBERS. Clark C. Heritage (to Wood Conversion Co.). Can. P. 431 281, Nov. 13, 1945.

A bonded fibrous felt is formed by atomizing moisture and a finely powdered adhesive into an air suspension of the fiber, depositing the fiber and adhesive powder on a base and compacting the resulting mat into a felt. TTD:1-46.

FELT BATTS. C. P. Porritt (to R. R. Whitehead & Bros.). Brit. P. 568 950. *Textile Mfr. 71,* 450 (Oct. 1945).

Felt batts are made by feeding a continuous fiber web to a conveyor moving parallel to the path of the fibers. The feed is at a speed greater than the peripheral speed of the conveyor so that a number of fiber laps are formed. These are then compressed to form a batt. TTD:1-46.

FIBER FELTS. Robert N. Brownlee (to Wood Conversion Co.). USP 2 389 024, Nov. 13, 1945.

In making felts by dispersing vegetable fibers on a wire screen the uniformity of the felt from side to side is greatly improved by a new structure which avoids excessive build-up of fiber thickness along the margins of the felt on the forming screen. TTD:1-46.

INSULATION. Clarence J. Davies (to Nat'l Automotive Fibres, Inc.). USP 2 388 392, Nov. 6, 1945.

A soft resilient fibrous insulating material in sheet form is produced by interspersing a dry thermoplastic powder through a thick web of cotton or the like, softening the thermoplastic binder with a hot air blast and ironing the material with an ironing machine to smooth and compact the surface of the web. TTD:1-46.

INORGANIC FIBERS — II

Fiber applications — II 3

GLASS FIBER MATS. From sand to battery separator. T. R. Simkins, Glasfloss Mfg. Co. *Modern Plastics 23,* No. 2, 148-50, 218 (Oct. 1945).

Illustrated description of the manufacture of battery separators from glass fiber mats impregnated with phenolic resins employing water-soluble phenolics as bonding agents. TTD:1-46.

INSULATED WIRE. Games Slayter and Allen L. Simison (to Owens-Corning Fiberglas Corp.). USP 2 390 039, Nov. 27, 1945.

Impregnated glass fiber makes superior insulation for magnetic wire and other insulated wires which must be moisture-resistant. Impregnation may be with starch, asphalt, varnish or a synthetic resin. An alkali-free glass with very high dielectric value is employed for the purpose. TTD:1-46.

GLASS FIBER. Structural materials made from Fiberglas fabrics. John Reeves, Foreval Plastics Co. *Textile World 95,* No. 10, 110-2 (Oct. 1945).

Laminates utilizing glass fiber are made with a core of cellular cellulose acetate or foam rubber, or in a variety of other constructions with other bonding agents for specific purposes. Products include luggage, airplane parts, structural parts of automobiles, railway cars, furniture and the like. Laminates may be made comparable to high grade steel in tensile strength with only 1/3 the weight. TTD:1-46.

FIBER TO YARN — III

Fiber preparation — III 1

COMBING MACHINES. Donald Pierrepont. USP 2 389 684, Nov. 27, 1945.

A revolving clearer for use on combing machines to clean waste fiber from the leather covered top detaching rolls is so constructed that it is silent in action, free from vibration, always in correct adjustment and subject only to negligible wear on moving parts. TTD:1-46.

COMBING WOOL. Effect of dyestuffs on combing and spinning results. Anon. *Textile Recorder 63,* No. 751, 44-45 (Oct. 1945).

Comparative experiments in combing and spinning dyed and undyed wool give at least partial confirmation of the common opinion that undyed wool behaves better and that dark shades give a lower yield than light shades of dyed wool. Definite relations were observed between dyeing of wools and their spinning properties, yarn strength and amount of waste. Further research should clarify these relations sufficiently to permit selection of desirable and undesirable dyes from this standpoint. TTD:1-46.

COTTON COMBER MAINTENANCE. News letter No. 4, Platt Bros. & Co., Ltd. Oldham, England, 1945. Reprinted in *Textile Mfr. 71,* No. 850, 413 (Oct. 1945). TTD:1-46.

FIBER CONDITIONING. Bulletin of the Texas Co., Ed. 2, New York City 1945.

Reviewed in *Rayon Textile Monthly 26,* 522 (Oct. 1945). TTD:1-46.

RAYON SLIVER. Top or sliver of rayon staple can be produced and provided without carding or combing. H. Ashton, Courtaulds, Ltd. *Textile J. Australia 20,* 366, 368, 370 (Oct. 1945).

Development of the Greenfield top is traced from the time in 1937 when the breaking and abrasion methods of tow-to-top conversion were abandoned in favor of the cutting method. Four qualities of Greenfield top are listed and their uses are described in spinning worsted, flax, silk and cotton. TTD:1-46.

CARD CLOTHING. Wm. F. Bokum (to Proctor & Schwartz, Inc.). USP 2 388 631, Nov. 6, 1945.

Self cleaning card clothing has the wire laid on the cylinder face in toothed rings which are arranged parallel to each other in planes at right angles to the axis of rotation of the card cylinder so that grooves run around the cylinder between the rings of teeth. Resilient fingers may then be placed in position to clean these grooves continuously or intermittently while the card cylinder revolves. TTD:1-46.

CARD CLOTHING. Metallic card clothing eliminates grinding and reduces stripping cycle. H. B. Robinson, Columbus Mfg. Co. *Textile World 95,* 102-3 (Oct. 1945).

Platt metal wire card clothing has been known to run 17 years without grinding. The stripping cycle has been reduced to once every 2 weeks without loss in quality, consequently the labor cost of carding is substantially decreased. TTD:1-46.

CARD WASTE. Waste control saves card-room dollars. Seth Carter. *Textile World 95,* No. 9, 147, 149 (Sept. 1945).

A substantial part of the loss commonly incurred in card-room waste can be prevented by proper handling so that the waste receives the highest possible classification. Standards should be set up for waste at each process and a weekly analysis should be made to reveal whether or not these standards are being met. TTD:1-46.

LAP PIN. John T. Tice. USP 2 388 774, Nov. 13, 1945.

An improved lap pin for pickers is made in a tube shape with lengthwise grooves on the outer surface. These pins permit a much more compact lap than with other designs, thus increasing yardage while holding the lap within the present diameters. The lap pins need not be tapered and so are easy to make in correct weights. They have long life and are easy to remove from the lap with less binding and without damage to the ends of the finished lap. This eliminates much card waste formerly caused by damaged ends. TTD:1-46.

DRAWING. Carded-Yarn Mills Use Improved Drawing. C. Mallard Bowden, Textile World. *Textile World 95,* No. 9, 161, 163 (Sept. 1945).

Long draft roving and spinning are in favor for medium carded yarns, while Bi-coil and controlled-draft drawing increase production and decrease doublings. These improved drawing systems are discussed in relation to sheeting and to towels and flannels. TTD:1-46.

DRAWING FRAME. Joseph Noguera (to Casablancas High Draft Co., Ltd.). USP 2 388 760, Nov. 13, 1945.

A drawing frame for drafting very thick strands of fiber, e. g., in cotton spinning, is so constructed that the plane containing the axes of 1 pair of rolls is perpendicular to the plane containing the axes of the preceding and following pairs, instead of the usual parallel arrangement. By this construction the strand from each of 2 consecutive roll pairs is pulled around approximately a 90° arc of one roll and then passes straight into the nip of the next pair. The result is a much improved drafting effect. TTD:1-46.

DRAWING ROLLS. Roderic D. Tarr (to Saco-Lowell Shops). USP 2 389 581, Nov. 20, 1945.

The lower drafting rolls of the drawing mechanisms for spinning, roving, and other long frame machines are connected end to end at the bearings or roll stands. A simplified construction is employed which permits a single bearing to serve each pair of adjoining end portions, so that only half as many bearings are needed as in previous constructions. TTD:1-46.

Spinning III 2

MULE SPINDLE DRIVE. H. Charlesworth. Brit. P. 568 618. *Textile Mfr. 71,* 448 (Oct. 1945).

The electric drive for a self-acting mule or twiner has slow-speed, fast-speed and backing-off clutches, all arranged on a single shaft and all actuated by the same motor which drives the other motions of the mule. TTD:1-46.

SPINNING FRAME ROLLS. Australian timber found suitable for textile rollers. Anon. *Textile J. of Australia 20,* 300 (Sept. 1945).

News note concerning the use of high density silver ash, saffronheart, greybox and compressed resin-bonded wood as substitutes for American rock maple in spinning frame and drawing frame rolls. TTD:1-46.

TWISTER. Atwood doubler-twister. Anon. *Can. Textile J. 62,* No. 21, 48 (Oct. 19, 1945).

Illustrated description of the new doubler-twister developed by the Atwood division of Farrel-Birmingham Co. A special feature is a feed roll stop motion operating on a principle hitherto not employed in twisters. TTD:1-46.

YARN TWIST. Effect of twist on cotton yarn. R. Rama Iyer, Delhi Cloth Mills. *Indian Textile J. 56,* No. 661, 42-45 (Oct. 1945).

Optimum twist for yarn strength is not the same as the optimum for warmth, feel, handle or other properties. For example, low twist permits much dead air space and promotes warmth but is not conducive to

strength. Twist also affects appearance and so can be utilized for novel effects, since warp twist yarn reflects light in the opposite direction to that of weft twist yarn. TTD:1-46.

THREAD GUIDE. Ferdinand A. Decker, Jr. (to Am. Viscose Corp.). USP 2 388 239, Nov. 6, 1945.

A thread guide for spinning frames and for winders or reeling machines is bent back upon itself at the ends of the 2 outer prongs to provide a smoothly curved entering guide passage. The new guide permits quick, easy and positive threading, and improper threading does not easily escape detection. After entering the thread cannot escape of itself and so cannot come unlaced while subsequent guides are being threaded. TTD:1-46.

DOFFING. Doffer's load lightened by bobbin lifter. Anon. *Textile World 95,* No. 10, 143 (Oct. 1945).

Illustrated news note concerning a bobbin lifter developed by Callaway Institute for Monarch Mills. TTD:1-46.

SPINNING COSTS. Investigation of influence of ring size, bobbin diameter, and spindle speed on spinning process, and their effect on over-all cost of spinning. A. N. Sheldon & J. J. Blake, F. P. Sheldon and Son. *Trans. A. S. M. E. 67,* 575-83 (Oct. 1945).

Charts are presented from which the optimum diameters of ring and bobbin and optimum spindle speed may be predicted with acceptable accuracy for spinning any size of cotton yarn, carded or combed, with any staple length fiber. These charts are based on mathematical formulas, but the results agree closely with general spinning practice. Specimen calculations are given to illustrate the use of the charts to calculate spinning costs under various mill conditions. TTD:1-46.

SPINNING FLAX YARN. J. P. Mackie (to J. Mackie & Sons Ltd.). Brit. P. 568 650. *Textile Mfr. 71,* 448 (Oct. 1945).

In spinning fine linen yarns the necessary light controllable drag on bobbins where dead spindles are used is provided by using light bobbins having their head and base portions molded of bakelite or a similar plastic. These bobbins run direct on the dead spindles without a bobbin carrier. TTD:1-46.

SPINDLE. Herman H. Brooksicker and Paul I. Thyreen (to Marquette Metal Products Co.). USP 2 388 900, Nov. 13, 1945.

A simplified bolster case, with improved bearing construction and brake mechanism, greatly improves the performance of spindles for spinning or twisting machines in textile mills. TTD:1-46.

SPINDLE BRAKE. Drummondville Cotton Co., Ltd. Brit. P. 568 898. *Textile Mfr. 71,* 450 (Oct. 1945).

An attachment for spinning frames lifts the tape of the spindle and applies braking pressure to the spindle by means of a runner attached to the tape guide. TTD:1-46.

TRAVELER. Philip C. Wentworth. USP 2 390 018, Nov. 27, 1945.

A new design for ring travelers practically eliminates the tendency to swivel on the ring and ride the ring flange, while at the same time preventing most of the backtracking on the outside web of the ring. Consequently the new traveler operates in a more nearly balanced manner and in gyroscopic position, thus increasing the life of both traveler and ring and improving yarn uniformity. TTD:1-46.

RAYON. Arthur L. Jackson (to Cornelius C. Vanderhooven). Can. P. 431 561, Nov. 27, 1945.

Apparatus for bobbin spinning of very heavy thick cross wound rayon threads (300 denier or more). TTD:1-46.

Winding III 3

BOBBIN MARKER. Harry Lambert (to Pacific Mills). USP 2 389 859, Nov. 27, 1945.

For positive marking of filled bobbins at minimum expense, manual marking is replaced by a marking mechanism attached to the winding machine so that chalk is brought to bear on the bobbin before it is doffed. TTD:1-46.

TEXTILE CONDENSERS. George J. Prosser and Cecil L. Watts (to Platt Bros. & Co. Ltd.). Can. P. 431 259, Nov. 13, 1945.

The mounting of surface winding drums and their bobbins on textile condensers is arranged to facilitate the action of the traversing and driving mechanism with the aid of sliding bearings for the axle of each surface drum. TTD:1-46.

TRAVERSE MECHANISM. Royal Little and Leroy Jehu (to Textron Inc.). USP 2 388 557, Nov. 6, 1945.

A traverse mechanism which permits winding yarn on cylindrical or conical cores with the crossing coils building up into a mass with relatively flat or tapered ends is so arranged that the yarn coils are distributed on the package with a uniform traverse over most of the length of the package. At the ends the rate of traverse is accelerated so that sharp V-shaped bends are formed and the yarn is prevented from slipping or sliding over the edges or from sloughing off in loose coils when the package stands on end. TTD:1-46.

WINDER. Australian P. 120 157. *Textile J. of Australia 20,* 372 (Oct. 1945).

An improved thread winder has a novel device for preventing hump formation at the ends of thread packages. A pivoted thread guide is drawn against the bobbin by the thread. A contact horn automatically guides the thread into the guiding groove as winding begins. TTD:1-46.

WINDER. A. Davenport (to E. Scragg & Sons, Ltd.). Brit. P. 568 595. *Textile Mfr. 71,* 448-9 (Oct. 1945).

An improved winder permits winding silk and rayon on taper or cone-ended cheeses of various sizes at the same time. TTD:1-46.

Yarn processing **III 4**

APPLYING LIQUIDS. Am. Viscose Corp. Brit. P. 568 893. *Textile Mfr. 71,* 449 (Oct. 1945).

Apparatus for treating threads or filament bundles with liquid agents forms a running length of the material between 2 points at different levels. A liquid jet is directed into the path of the material at a small angle so that the liquid will follow the same course. TTD:1-46.

BLENDED YARN. Sylvania Industrial Corp. Brit. P. 568 675. *Textile Mfr. 71,* 448 (Oct. 1945).

Yarn blends are made with at least 1 strand of potentially adhesive fibers, which are rendered tacky prior to weaving so that adjacent strands are bonded together but do not form a continuous coating. The resulting yarns remain flexible but resist untwisting. TTD:1-46.

SHRINKING YARN. Frank B. Hill and Wm. H. Kimpton (to Celanese Corp. of Am.). USP 2 388 742, Nov. 13, 1945.

The extensibility of high tenacity, low elongation yarns is restored to the desired extent by passage at controlled speed through a liquid shrinking bath and withdrawal at a speed slower than the feed rate. The rate of flow of the shrinkage bath is also controlled. As an example high tenacity acetate yarn is run through a 55-75% solution of CH_2Cl_2 in kerosene. TTD:1-46.

RAYON TREATMENT. Raymond D. Reel (to Camille Dreyfus). Can. P. 431 109, Nov. 6, 1945.

A running thread is treated with vapor under pressure in a pressure chamber, then with a liquid under pressure in the next adjacent chamber. TTD:1-46.

Yarn products **III 5**

RESIN TREATMENT. Resin treated cotton yarns. Anon. *Am. Wool Cotton Reptr. 59,* No. 41, 59, 61 (Oct. 11); *Fibre & Fabric 98,* No. 3167, 13 (Oct. 13); *Cotton* (Atlanta) *109,* No. 10, 131 (Oct.); *Textile Bull. 69,* No. 3, 48-49 (Oct. 1); *Rayon Textile Monthly 26,* 533 (Oct.); *Textile Colorist 67,* No. 10, 74, 91 (Oct.); *Textile Age 9,* No. 10, 72 (Oct.); *Can. Textile J. 62,* No. 21, 44 (Oct. 19, 1945).

A brief review of progress by Dan River Cotton Mills in the application of resins to cotton fiber and yarn, especially fiber-bonded cotton roving. Sewing thread, florists' twine and other high strength yarns are among the products. TTD:1-46.

PAPER TWINE. Morris Katz. USP 2 388 745, Nov. 13, 1945.

Paper twine is made from 20-100 strands of narrow twisted paper, with which may be incorporated a wider strip of paper, cellophane or a textile material, or even a fine wire. A paper or other strip may be spirally wound around the twine. Waterproofing and mildewproofing agents such as tar or wax emulsions containing antiseptics may be incorporated in the twine or sprayed on the strands. The twine is soft and flexible and can be readily tied into firm knots. TTD:1-46.

Yarn applications **III 6**

RAYON: RUBBER ADHESION. H. Dreyfus. Brit. P. 568 504, *Textile Mfr. 71,* 448 (Oct. 1945).

Adhesion of regenerated cellulose rayon fibers to rubber is improved by applying the rubber in solution in a hydrophobic liquid which is then removed. The moisture content is reduced immediately before or during the operation. TTD:1-46.

YARN PROCESSING. William Whitehead (to Camille Dreyfus). Can. P. 431 559, Nov. 27, 1945.

Making tire fabric by parallelizing plied yarns and coating the resulting warp sheet with rubber, which is helped to adhere by prior surface esterification of the yarn with phthalic anhydride. TTD:1-46.

YARN TO FABRIC IV

NOMENCLATURE. Textile terms and definitions. Anon. *J. Textile Inst. 36,* P151-3 (Oct. 1945).

Definitions of 14 terms are presented in tentative list No. 6, and of 12 terms in recommended list No. 4, of the Textile Terms and Definitions Committee of the Textile Institute. Discussion is invited by the committee. TTD:1-46.

SYNTHETICS. Textiles from the test-tube. A. M. Low. *Indian Textile J. 56,* No. 661, 63-4 (Oct. 1945).

A brief review of new developments in artificial and synthetic fibers, and in the use of synthetic resins or plastics for processing fibers or fabrics to obtain special effects such as shrinkproofing and soilproofing. TTD:1-46.

Yarn preparation **IV 1**

CONDITIONING YARN. John R. Caldwell (to Eastman Kodak Co.). USP 2 388 826, Nov. 13, 1945.

The nitriles of aliphatic acids (lauric to stearic) and of unsaturated acids (such as oleonitrile) are highly effective agents for conditioning acetate and like rayon yarns prior to knitting, weaving, spinning, carding or the like. The nitriles also provide lubrication and improve the hand of rayon yarns. They may be applied in oils or in emulsion form. TTD:1-46.

CONDITIONING YARNS. Joseph B. Dickey and James G. McNally (to Eastman Kodak Co.). USP 2 388 833, Nov. 13, 1945.

Excellent lubricants and antistatic agents for conditioning acetate or like rayon yarns are obtained by introducing 1 or 2 furyl or difuryl groups on the N atom of amides derived from fatty, resin or naphthenic acids. Cotton, wool, silk, nylon and viscose rayon yarns may also be improved by these agents. TTD:1-46.

CONDITIONING YARN. John L. Baggett (to Camille Dreyfus). Can. P. 431 560, Nov. 27, 1945.

Conditioning acetate or like yarns by treatment with a composition of mineral oil, an inorganic electrolyte, a sulfonated long chain carboxylic acid and a long chain alcohol. TTD:1-46.

DRIER. Bernard R. Andrews. USP 2 389 586, Nov. 27, 1945.

A cloth drier which employs hot air jets to evaporate moisture from fabric is rendered more effective by supplying hotter air to the wall surfaces between jets than to the jets themselves so that the wall surfaces transmit radiant heat to the fabric. TTD:1-46.

Weaving — IV 3

LOOM BEAMS. Determining yardage for full loom beams. George Wakefield, *Textile World 95,* No. 10, 129, 131 (Oct. 1945).

Instructions are given for drawing up nomographs to show the yardage of yarn required to fill a loom beam for any given yarn count and sley. TTD:1-46.

WEAVING. A guide to young weavers. J. H. Yates. *Textile Recorder 63,* No. 751, 36-38, 68 (Oct. 1945).

A lecture on yarn varieties, their properties and proper handling on looms. TTD:1-46.

Looms — IV 3 a

GRIPPER LOOMS. Albert Moessinger (to Sulzer Freres, Societe Anonyme). USP 2 389 808, Nov. 27, 1945.

Twisted bindings for making selvages at neighboring edges of 2 adjacent lengths of fabric have not hitherto been adaptable to the outermost edges of the fabric where the warp threads are not held by turning back the weft threads. The reason is that the weft threads lack the tension required to sustain the binding threads. The new device provides a special thread gripper which holds the weft thread in tension at least until it is beaten into the fabric. Projecting ends of weft thread are bound together by binding threads running in the direction of the warp and are then cut off between the fabric and the outermost binding threads, which are held in tension. Cutting is thus possible on the loom in a very simple and neat fashion. TTD:1-46.

KNITTING MACHINE. Wm. D. Kellogg and John Fradenburgh (to Aveco Inc.). USP 2 389 154, Nov. 20, 1945.

A new frame construction for warp knitting machines prevents the transmission of vibrational and torsional stresses from the cam shaft and patterning mechanism through the frame to the knitting assemblies. The new construction also permits use of warp beams of any desired size with only minor changes in the beam support. TTD:1-46.

LOOM. Multiple fabric weaving. Diplomist. *Textile Weekly 36,* 656, 658, 660, 662, 704, 706, 708 (Oct. 5, 12, 1945).

Illustrated description of the Wilson & Longbottom heavy dobby loom, based on Northrop-Leeming designs. TTD:1-46.

LOOM MOUNTING. Mounting the Schoenherr CFS model loom. Bertil Melin, Skonska Yllefabriken. *Textil och Konfektion 2,* No. 7, 27-31; No. 8, 35-39 (Sept., Oct. 1945).

Since there are many Schoenherr looms in Sweden a description (illustrated with 19 photographs) of the correct procedure for installation and mounting is presented. TTD:1-46.

LOOM. Howard L. Shuttleworth (to Mohawk Carpet Mills, Inc.). USP 2 389 091, Nov. 13, 1945.

A loom for low cost weaving of bath mats, bedroom rugs and like fabrics in attractive designs is so arranged as to interweave binder warps with weft shots made of a heavy yarn such as a number of coarse rovings plied together. The weft shots lie in pairs in the fabric, one shot above the other, and the binder warps are made up of 2 sets with pairs of the warps, one from each set, in spaced relation across the fabric. TTD:1-46.

RAYON CREPE. Problems in weaving rayon crepes. J. W. Hutchinson. *Silk & Rayon 19,* 1106, 1109, 1111 (Oct. 1945).

One of the first problems encountered in weaving rayon crepe is the need for special care in setting the loom from its previous work such as worsted or the like. The crank arms must have sufficient play without being too slack and if the crank is worn from its circular shape to an oval form it must be replaced, or at least repaired with new ends. Other precautions in setting and operating the loom are discussed and illustrated. TTD:1-46.

WARP TYING. Titan warp tying machine. Anon. *Indian Textile J. 56,* No. 661, 65-68 (Oct. 1945).

Illustrated description of the new model Titan warp tying machine, which can attain a rate of 20 000 knots per hour but reaches maximum efficiency at 12 000-15 000 knots per hour. A warp of 5000 ends on a Jacquard loom can be replaced in 1 hour as against 5-6 hours by manual methods. TTD:1-46.

WEAVING WOOL. Making of cloth on a woolen loom. Anon. *Fibres 6,* 122-6 (Oct. 1945).

The construction and operation of the Dobcross loom

are described and illustrated with reference to weaving woolen and worsted yarns. TTD:1-46.

Loom parts **IV 3 b**

BEAM LETOFF. Brian Plunkett and Robert C. Scheib (to Camille Dreyfus). Can. P. 431 443, Nov. 20, 1945.

A device for letting off yarns simultaneously from a pair of interconnected yarn packages has a positive drive for one yarn package and a gear train operated by the positively driven package to rotate the other. A speed control device provides even feeding of the yarns from the 2 packages at a constant ratio. TTD:1-46.

BOX PICKER. John J. Brown (to Denman Tire & Rubber Co.). USP 2 389 952, Nov. 27, 1945.

Pickers made of impregnated and vulcanized textile fabric have hitherto usually been wrinkled and irregular in strength. A new picker which is smooth, without zones of weakness, is formed by rolling the edge of a fabric sheet to suitable diameter and wrapping it around a flat form to produce a laminated tube. A partially set resin is applied, wedges are placed in the web portion of the picker next to the bearing tube and the whole assembly is vulcanized under heat and pressure in a picker mold. TTD:1-46.

CROSS WEAVING. George Hilton (to Steel Heddle Mfg. Co.). USP 2 389 258, Nov. 20, 1945.

A new harness for leno or cross weaving is simple, inexpensive yet efficient and automatic. It eliminates the need for a jumper harness and its actuating mechanism, and also takes the place of the easer bar formerly used to maintain tension of the doup ends. TTD:1-46.

DISPENSING RACK. Chas. Strauss (to Arvey Corp.). USP 2 389 092, Nov. 13, 1945.

An improved dispensing rack and holder for rolls of fabric permits quick and convenient placing and removal of the fabric rolls. TTD:1-46.

LOOM BEAMS. Mechanical handling of loom beams at Nashua. Benjamin Thomas, Jr., Nashua Mfg. Co. *Textile World 95,* No. 9, 167 (Sept. 1945).

Illustrated description of an installation in which a single electric hoist supplies beams to the creel sections of two different slashers. TTD:1-46.

LOOM PICKER. Otto A. Kottemann (to Wm. D. Dodenhoff). USP 2 389 157, Nov. 20, 1945.

An automatic lock or tensioning device for pickers on looms has a wedged-shaped spring-actuated lock to hold the picker on its stick. With the new construction the picker need not be made of a cushioning material but may be made of plastic or metal which greatly prolongs its surface life. Since tension is applied by a device which is movable independently of the picker, it is also not necessary to shift the picker along the stick to take up slack. TTD:1-46.

PICK COUNTER. M. S. Striker. Brit. P. 568 948. *Textile Mfr. 71,* 450 (Oct. 1945).

An improved electric pick counter for looms is so arranged that the number of impulses caused by closing a circuit during each single operation of the counter is identical with the number of picks per unit of length. TTD:1-46.

PICKER STICK. Otis L. Carter and Thomas A. Putnam. USP 2 389 595, Nov. 27, 1945.

Plastic picker sticks are cast around a reinforcing I-beam. A holder for the picker is molded into the upper end of the picker stick. TTD:1-46.

STRAIN MEASUREMENTS. Electric strain gage promises solution to textile machine problems. V. E. Hillman, Crompton & Knowles Loom Works. *Textile World 95,* No. 10, 104-6 (Oct. 1945).

The attachment of electric strain gages to looms and their utility in testing and recording are described and illustrated. Tests reveal that crank shaft stresses may increase as much as 75% under faulty adjustment and that small displacements of lug straps, picking shoes and the like may cause relatively large increases in stress. TTD:1-46.

THREAD CONTROL. Richard G. Turner (to Crompton & Knowles Loom Works). USP 2 390 014, Nov. 27, 1945.

A pneumatic thread control system facilitates removing weft ends from outgoing and incoming bobbins. The air pump is driven independently of the loom drive and so the pneumatic thread holder can be operated to attract weft ends of a new bobbin even while the loom is idle. TTD:1-46.

THREAD CUTTER. Richard G. Turner (to Compton & Knowles Loom Works). USP 2 389 471, Nov. 20, 1945.

The thread extending from an empty bobbin at the time of bobbin change on a weft replenishing loom is cut by a device which is actuated by cam surfaces on the shuttle or shuttle box front, so that no abutments are needed on the lay and cutting is effected with a minimum of effort. TTD:1-46.

WARPING MACHINE. Fritz Lambach. USP 2 388 269, Nov. 6, 1945.

A machine for winding warp on a beam has an individual electric drive with an automatic speed control so arranged that the motor speed is reduced in proportion as the yarn thickness builds up on the beam. An electrical control is also provided for adjusting the motor speed while operating at inching speed. TTD:1-46.

WARP TYING. Zellweger A. G. Apparate- & Maschinen-Fabriken Uster. Brit. P. 568 744. *Textile Mfr. 71,* 449 (Oct. 1945).

An attachment for warp tying machines controls the cross threads in warp preparing machines by the aid of automatic devices which divide out the individual threads. TTD:1-46.

WEFT STRAIGHTENER. Joseph L. Dube (to John D. Robertson). Can. P. 431 106, Nov. 6, 1945.

Weft threads are straightened by advancing a taut web of the cloth and twisting a spread section of the web to increase the tension at one edge portion and decrease the tension at the other edge portion, the interval being sufficient to effect the desired straightening without harmfully stretching the one edge or entirely releasing tension on the other.

TTD:1-46.

WEFT SUPPLY. Australian P. 119 905. M. Wright and Sons, Ltd. *Textile J. Australia 20* 372 (Oct. 1945).

A loom with stationary weft supply has a shedding apparatus for making a double shed with the aid of 2 weft layers which enter from the same edge of the band of warps, each inserting a double pick. A device is provided for locking the bights of the 2 double picks at the return edge. A double fabric is thus produced having front and rear warps interlaced with the double picks. TTD:1-46.

YARN FEED. Julius Sirmay (to Jacquard Knitting Machine Co., Inc.). Can. P. 431 402, Nov. 20, 1945.).

In making fabric from a yarn fed to the machine by a spool, the rate of rotation of the feed spool is controlled by an oscillating bar over which the yarn passes. The motion of the bar is governed by the length of yarn intervening between the spool and the fabric-making mechanism. TTD:1-46.

Control devices — IV 3 c

STOP MOTION. Fritz Lambach and Walter Siegel (to Robert Reiner, Inc.). USP 2 389 625, Nov. 27, 1945.

An electrical stop motion for a warping or beaming plant is fitted with a drop needle control which employs a photoelectric cell and is more sensitive to a breakage of warp yarn than previous controls employed for the same purpose. TTD:1-46.

WOOL FABRICS. Raised finish overcoatings; utility suiting tweeds; worsted costume cloths; checked back overcoatings. Portex. *Wool Record & Textile World 68,* 574, 577, 579, 619, 660, 662-3, 703, 705 (Oct. 4, 11, 18, 25, 1945).

Problems involved in production of successful wool fabrics include selection of the correct wool quality for milled and raised finishes on overcoat fabrics for export; proper design and construction of tweeds in attractive styles and color patterns; utilizing the superior handle of mule-spun worsted yarns in costume fabrics; and combining tweed with lining cloth in a single fabric for fancy wool double cloth overcoats.

Fabric construction — IV 3 d

FABRIC BAG. William D. Stohlman and Thomas H. Ashton (to Bemis Bros. Bag Co.). Can. P. 431 016. Nov. 6, 1945.

Cloth bags are made with a basket weave stripe around the top to support the bag while it is being filled and to receive the stitches or other means of closing the filled bag. TTD:1-46.

SHOULDER PADS. Irving Rothenberg, Simon Kagen & Samuel J. Gurewitz (Gurewitz assignor to Kagen and Rothenberg). USP 2 389 934, Nov. 27, 1945.

Machine-made shoulder pads for garments, truer to size than handcut pads and much less expensive, are made on a machine which holds the fabric facings and the cotton, wool or hair filling together against any possible movement with respect to each other as they are joined together and cut. TTD:1-46.

WEAVE PATTERNS. Semi-boucle fabrics. L. Bellwood. *Textile Mfr. 71,* 422-6 (Oct. 1945).

There is almost unlimited scope for design construction in semi-boucle yarns utilizing only 1 twist process and weaving this yarn in the weft only. Loom particulars and construction details are presented for weaving semi-boucle patterns. TTD:1-46.

Knitting — IV 4

HOSIERY. Visiting other seamless mills. Albert T. Russell. *Cotton* (Atlanta) *109,* No. 10, 183-4 (Oct. 1945).

Faults such as bad lighting, lack of control over temperature and humidity, improper operation of machines and poorly selected or adjusted drives for the knitting machines have been encountered in mills making seamless hosiery. Profitable operation calls for elimination of such faults. TTD:1-46.

HOSIERY. Joseph L. Beers (to Julius Kayser & Co.). Can. P. 431 403, Nov. 20, 1945.

An improved full fashioned hosiery knitting machine seams together at least 2 edge portions of a stocking blank on the needles of a needle bar by interknitting a yarn with the adjacent terminal wale loops of the 2 edge portions and then interknitting the same yarn with the remainder of the terminal wale loops.

TTD:1-46.

KNITTING MACHINE. Kenneth Howie (to Wildman Mfg. Co.). Can. P. 431 101, Nov. 6, 1945.

A full fashioned hosiery knitting machine has an in-

step loop transfer bar which is automatically removed from the instep needles, to hold the fabric apart from them, while the heel tab fabric is being knit, after which the bar restores the loops to the instep needles. TTD:1-46.

KNITTING MACHINE. B. Toone (Nottingham) Ltd. Australian P. 119 888. *Textile J. Australia 20,* 320 (Sept. 1945).

An improvement on independent needle knitting machines provides an additional thread which is fed and cut during the knitting process so that all the thread projecting from the cutting point to the needles is knit into the fabric. TTD:1-46.

WOOL HOSE. Knitting wool socks on Komet machines. "K. O. Metz". *Cotton* (Atlanta) *109,* No. 10, 177-8, 180, 188 (Oct. 1945).

The Komet knitting machine can be converted from cotton to wool yarns and will produce excellent results but the cost per dozen may be considerably higher than for cotton yarns. Instructions are given for the necessary adjustments and precautions for correct operation to avoid wastes and seconds are discussed. TTD:1-46.

HOSIERY. Edward R. Ammon. USP 2 388 944, Nov. 13, 1945.

A mechanism for use on multisection full fashioned hosiery knitting machines incorporates identifying marks in the hosiery so that defects, no matter when discovered, can be traced back to the machine and machine section on which the defect occurred. Coded information concerning style, size and gage of yarns may also be incorporated so that the stocking blanks need not be tagged. TTD:1-46.

KNITTING MACHINE. Thomas C. Bromley and Arthur Shortland (to Mellor Bromley and Co., Ltd.). Can. P. 431 250-1, Nov. 13, 1945.

An improved mechanism for retracting and advancing the dividing sinkers and the pack sinkers in a straight bar knitting machine; and a draw mechanism having a continuously rotatable cam adapted to actuate the draw mechanism during only part of its rotation. TTD:1-46.

KNITTING MACHINE. Frank R. Page (to Scott & Williams, Inc.). USP 2 389 209, Nov. 20, 1945.

In fine gage hosiery knitting trouble has been encountered in group needle picking from lateral movements which cause a pick to pick a needle outside the desired group. To prevent this defect the pick and mounting are so arranged that a butt moving the pick will itself be moved only after the pick has started to move at least 1 adjacent butt. TTD:1-46.

KNITTING MACHINE. Robert H. Lawson and Paul W. Bristow (to Scott & Williams, Inc.). USP 2 388 750, Nov. 13, 1945.

A knitting machine of the superposed cylinder type is

fitted with a yarn feed mechanism which facilitates yarn changes when an elastic yarn is to be laid in during the knitting of other yarn and taken out at desired intervals. With this machine the elastic yarn control takes the form of a simple accessory to the conventional yarn changer. TTD:1-46.

KNITTING NEEDLE. De Hart G. Scranton (to Western Electric Co., Inc.). Can. P. 431 430, Nov. 20, 1945.

A jack for holding knitting needles has an arm with an L-shaped notch for clamping a corresponding nib of a knitting needle. The base of the notch fits closely around the end of the nib and so prevents longitudinal twisting of the needle. TTD:1-46.

KNITTING NEEDLE. De Hart G. Scranton (to Western Electric Co.). Can. P. 431 100, Nov. 6, 1945.

The latch of a knitting needle is pivoted on the needle by a ball pivot secured in openings formed in the latch and in the needle.

KNIT GOODS. Arnold F. Verbeek (to Kalio, Inc.). Can. P. 431 514, Nov. 27, 1945.

A topping stand for topping knit fabrics has a bar carrying 2 sections of topping points, each pivoted so that the section can swing into straight or parallel orientation, and a device for severing the topped fabric when the 2 sections are parallel to each other. TTD:1-46.

PATTERN CHAIN. Samuel C. Doughty. USP 2 388 311, Nov. 6, 1945.

Pattern chains for knitting machines are made with the detachable buttons mounted between projections on the chain lengths so that the buttons cannot be displaced sideways and therefore retain their correct positions. TTD:1-46.

TORRINGTON NEEDLE BEARINGS. Handbook of Torrington Co., Torrington, Conn., Ed. 32, 1945; 153 pp.

Reviewed in *Textile Age 9,* No. 10, 128 (Oct. 1945). TTD:1-46.

STOP MOTION. James A. Ruth. USP 2 389 688, Nov. 27, 1945.

A combined stop motion and latch opener for circular knitting machines is mounted on the latch ring and pivoted thereto so that when the latch ring moves up the stop motion and latch opener also moves up and is lifted out of the way of the needles. The device also serves as a detector for broken needle butts and closed latches. TTD:1-46.

STITCH CONTROL. Oscar Fregeolle (to Hemphill Co.). Can. P. 431 395, Nov. 20, 1945.

A circular independent needle knitting machine has main and auxiliary cam blocks on vertically sliding mounts, and a stitch regulator which governs the operating height of each cam block. TTD:1-46.

HOSIERY. Harry N. Sheppard (to Scott & Williams, Inc.). USP 2 388 648, Nov. 6, 1945.

Machines for knitting nylon hose are arranged to knit guides along the proper wales of the hose so that correct placing of the hose on the preboarding forms will be facilitated. TTD:1-46.

HOSIERY. Harry N. Sheppard (to Scott & Williams, Inc.). USP 2 388 649, Nov. 6, 1945.

Machines for making circular knit hosiery are so arranged that the heel is knit with adjacent tapered gussets, placed one below another and extending to the instep fabric. The heel is extended under the foot by knitting an upper gusset with less than half the wales of the leg while the gusset below it contains more courses than the upper gusset. TTD:1-46.

HOSIERY. Paul Schmidt. USP 2 390 003, Nov. 27, 1945.

A full fashioned stocking having a proper fit in the instep and ankle as well as in the heel has a novel heel construction which does not require any expensive alterations in the standard legger of the knitting machine. This form of single unit stocking can be made in minimum time and involves no transfer of loops except in the narrowing direction.

TTD:1-46.

INSULATED WIRE. Ben. K. Ford (to Western Electric Co.). Can. P. 431 431, Nov. 20, 1945.

The knit fabric cover of an insulated electric wire is made with wale portions spiralling around the insulation in opposite directions while the course portions of the knit fabric extend lengthwise of the insulated wire. TTD:1-46.

Pile fabrics — IV 5

ABRASIVE. Edwin W. Colt, Leonard B. Lane and Julian L. Beatty (to Armour & Co.). Can. P. 431 486, Nov. 27, 1945.

A pile fabric with an interwoven base is coated with an adhesive and then with abrasive particles to make an abrasive sheet. TTD:1-46.

CARPET. Harold P. Faris and John E. White (to Nat'l Automotive Fibres, Inc.). USP 2 389 657, Nov. 27, 1945.

An improved pile surface for carpets is obtained by depositing the individual fibers on a cement-coated backing while the backing is being vibrated. Successive deposits of fiber may be laid on the backing, loose or excess fibers from the previous deposit being first removed in each case. TTD:1-46.

PILE FABRIC. Australian P. 120 017. *Textile J. Australia 20,* 320 (Sept. 1945).

Pile-forming fibers such as wool are passed between 2 endless belts to a bed knife where the pile is cut and applied to an adhesive backing. The solvent of the

cement is then evaporated and the cement is cured by heat. TTD:1-46.

PILE FABRIC. Thomas A. Brown (to Brown, Ogden & Co., Ltd.). USP 2 388 465, Nov. 6, 1945.

Pile fabrics for carpets, blankets and the like are produced direct from a carded sliver without spinning or weaving. Fibers are projected from the card directly onto the edges of plates, spaced in such a way that fibers extend around the edges, across from plate to plate, and into the spaces between plates. The fibers are then sewed to a canvas backing and cropped, yielding a fabric having an even close pile.

TTD:1-46.

Narrow fabrics — IV 6

ARTIFICIAL LINEN. James W. Stallings (to Rohm & Haas Co.). USP 2 390 032-3, Nov. 27, 1945.

A chemical treatment for increasing the water absorbing capacity of raw fibers and thereby increasing the swellability of the woven fabric to increase tensile strength and impart a linen-like appearance comprises separate treatments with acrylonitrile and NaOH solution. Cotton batting, yarn or fabric is soaked or dipped in acrylonitrile, then in the caustic solution, and is then freed from excess caustic liquor and washed. A particular application of this treatment is in making cotton fire hose which closely resembles linen fire hose in capacity to swell when wet. Thus the hose holds water while allowing sufficient moisture to permeate the fabric to increase its fire resistance.

TTD:1-46.

BRAIDED CATHETERS. Norman C. Jeckel (to U. S. Catheter & Instrument Corp.). USP 2 388 693, Nov. 13, 1945.

A machine for braiding tapered tubular products such as catheters provides a uniformly tight close weave throughout the length of the tube and tapers the tip by stepwise withholding of certain threads from the braiding operation, then returning the withheld threads in stepwise order until the tapered portion returns to the tube size, cutting the product at the middle of the tapered section and coating the cut lengths with lacquer. TTD:1-46.

BRAIDED FABRIC. Australian P. 119 952. *Textile J. Australia 20,* 320 (Sept. 1945).

A braided fabric for coats, blankets, rugs and other heavy fabric articles is made by stitching heavy wool yarn to a backing sheet of canvas, calico or the like and teasing the exposed surface to raise a nap so that the stitching is concealed. TTD:1-46.

Fancy fabrics — IV 7

TUFTED FABRICS. Jess S. Kile (to Cabin Crafts). USP 2 389 914, Nov. 27, 1945.

A machine which automatically forms spaced tufts in

a fabric is so designed that the spacing of the tufts inserted by the machine is easily increased or decreased. The fabric can be removed from the machine, or a new tuft or series of tufts can be started, without cutting the thread from which the tufts are made. Tuft size is also adjustable by varying the number of stitches. TTD:1-46.

Fabric processing — IV 8

CALENDERING CLOTH. Seam detector uses electronic relay. R. J. de Martini, General Electric Co. *Textile World 95,* No. 10, 135 (Oct. 1945).

An improved seam detector for relieving pressure on calender rolls just before a seam passes and restoring the pressure immediately after it passes is so sensitive that it successfully handles seams adding only 7 mils to the cloth thickness. This detector employs an electronic relay to operate a limit switch mounted on the calender. Cloth speed may be as high as 100 yds. per minute. TTD:1-46.

CUTTER SHIFT. George E. Marble (to Curtis & Marble Machine Co.). USP 2 389 800, Nov. 27, 1945.

To permit removal of the fixed blade from the rotating blade of a cutter on cloth shears, so that the fixed blade may be honed without loss of relative cutting adjustment, a shifting device is provided which first moves the shearing unit away from the cloth rest and then moves the fixed blade away from the rotating blade. TTD:1-46.

DOUBLING. Cross roll doubling machines. Hans Thierbach. *Textil och Konfektion 2,* No. 6, 12-16 (Aug. 1945).

Illustrated description of the Hamel machine, a German product. TTD:1-46.

PLANETARY NAPPER. Problems and discussions, machines and methods. George H. LaFountain and Henry J. Stevenson, Davis & Furber Machine Co. *Am. Wool & Cotton Reptr. 59,* No. 43, 15, 17, 19 (Oct. 25, 1945).

The action of the Davis-Furber 24-roll, double action belted planetary napper is described, with particular reference to the functions performed by the pile and counter pile rolls. TTD:1-46.

SHRINKAGE. Shrinkage of fabrics during raising. C. P. Atkinson and C. S. Whewell, Leeds Univ. *J. Textile Inst. 36,* P156-7 (Oct. 1945).

Fabrics woven with a nylon yarn in the weft become narrower and thicker during the raising process. This lateral shrinkage causes no change in length, and continues to increase as the raising process is prolonged. Experiments indicate that this effect could be utilized in a variety of ways, in properly selected, woven and raised blends, to produce novel effects in appearance. TTD:1-46.

TENSION CONTROL. Winfield B. Heinz. USP 2 389 047, Nov. 13, 1945.

To overcome the changes in tension due to variations of thickness of the cloth on cloth winding rolls, for example, on dyeing jigs and like machines, a tension regulator has been developed which is readily applied to existing machines without any considerable change in the present structure. This regulator maintains substantially constant tension throughout a transfer operation, for either direction of movement of the fabric, and automatically controls the drive so that the roll having the smaller diameter is always the driven roll. TTD:1-46.

Fabric applications — IV 9

ADHESIVE TAPE. Frank N. Manley and Elwood P. Wenzelberger (to Johnson & Johnson, Ltd.). Can. P. 431 051, Nov. 6, 1945.

A flexible fabric for backing adhesive tape is waterproofed by calendering to the fabric a flexible coating of cellulose acetate plasticized with a high boiling ester such as methyl phthalyl ethyl glycolate. TTD:1-46.

AIRCRAFT DOPE. Imperial Chemical Industries, Ltd. Brit. P. 568 598. *Textile Mfr. 71,* 448 (Oct. 1945).

Aircraft fabric having a potential lateral shrinkage of 5-15% is wetted, allowed to shrink, and coated with a cellulose derivative dope in emulsion form. The coated fabric is dried and stretched to its original dry width. The emulsion is of the water-in-oil type and the cellulose dope is water-insoluble. TTD:1-46.

AIRPLANE WING. Earle C. Pitman (to E. I. du Pont de Nemours & Co.). USP 2 389 210, Nov. 20, 1945.

Strong smooth wing and fin surfaces for airplanes are obtained by coating a fabric sheet with rubber cement and then with neoprene, a vinylbutyral resin or the like. The coated fabric is applied over the entire surface of the wing or fin to provide a smooth contour for flow of air without turbulence. TTD:1-46.

BOOK CLOTH. Synthetic resins in the book cloth industry. Anon. *Textile Bull. 69,* No. 4, 36, 38 (Oct. 15, 1945).

Illustrated description of methods used for applying pyroxylin and synthetic resin compositions to fabrics used in book binding. TTD:1-46.

COATED FABRICS. Major defects on precoated fabrics. H. E. Wenrich. *Rayon Textile Monthly 26,* 524-5 (Oct. 1945).

Some of the major defects which must be avoided in weaving fabrics for coated electrical insulation, waterproof tenting and other uses are described and illustrated (14 defects and 14 photographs). TTD:1-46.

COATED FABRICS. Electronic sewing machine revolutionizes plastic coated fabrics mass production. Anon. *Linens & Domestics 31,* No. 1, 33 (Oct. 1945).

Illustrated description of a new electronically controlled machine which forms seams in shower curtains and other coated fabrics in a manner comparable to autogenous welding. Although thin, the seams are airtight and watertight and often stronger than the coated fabric itself. TTD:1-46.

COATED FABRICS. Imperial Chemical Industries, Ltd. Brit. P. 568 571. *Textile Mfr. 71,* 448 (Oct. 1945).

A melt of a nylon type high polymer is mechanically blended with a plasticiser to form a composition which has superior flexibility when applied to fabrics as a coating. TTD:1-46.

COATED TEXTILES. Plastic sheeting: Its use and scope in textiles. Margot Duff. *Silk & Rayon 19,* 1046, 1048, 1086 (Oct. 1945).

Coating textiles by application of a thin plastic foil is a relatively new operation which has many potentialities for future commercial use, especially in making rainwear fabrics. TTD:1-46.

FLOAT. William H. Moss (to Henry Dreyfus). Can. P. 431 111, Nov. 6, 1945.

Closed air cylinders having 1 end concave and the other convex are formed from a waterproof coated textile fabric and are fitted together in rows to form a float which is then encased in a similar coated fabric. TTD:1-46.

KNIT GOODS. M. S. Striker & A. Eddy. Brit. P. 568 854. *Textile Mfr. 71,* 449 (Oct. 1945).

Curly edges on knit fabrics are prevented by applying a plastic stiffening material at the edges while the rest of the fabric is left unstiffened. TTD:1-46.

POLYESTERS. Calvin S. Fuller (to Bell Telephone Laboratories). USP 2 388 319, Nov. 6, 1945.

Linear polyesters are improved in hardness and toughness by a cross linking reaction with 0.1 to 1% of an organic peroxide such as benzoyl peroxide. Esters derived from ethylene glycols and succinic, sebacic, fumaric and maleic acids yield suitable products for impregnating the textile braid on insulated wire. TTD:1-46.

SPREADING. Automatic cloth spreading machine. Anon. *Indian Textile J. 56,* No. 661, 68-69 (Oct. 1945).

Illustrated description of the new model automatic cloth spreading machine developed by Cutting Room Appliances Corp. TTD:1-46.

UPHOLSTERY. Vinyl butyral coated upholstery. Anon. *Modern Plastics 23,* No. 2, 123 (Oct. 1945).

Illustrated description of the use of fabrics coated with a vinyl butyral resin for durable upholstery on seats, benches, doors and walls of dining rooms or other public rooms. TTD:1-46.

CLOTH-RESIN PRODUCT. Laminated brace for radar. Anon. *Plastics 3,* No. 4, 52, 113 (Oct. 1945).

A laminated product made from glass fiber cloth and Laminac X-4000, a fusible resin, has been successfully employed in fabricating bases for supporting radar apparatus. TTD:1-46.

FABRIC LAMINATES. Growing outlet for textiles. Harold E. Reed, Textile World. *Textile World 95,* No. 10, 107-9, 112 (Oct. 1945).

From a discussion of present laminated fabric constructions in the light of industrial requirements it is concluded that new special constructions and a wider range of fabrics are needed. Present requirements call for large consumption of Fiberglas and cotton duck in laminates. Low pressure laminates are potentially useful in large objects such as boats, while high pressure laminates have a great variety of actual and potential uses. TTD:1-46.

LAMINATES. Cellulose compounds in thermoplastic laminates. C. W. Eurenius, R. H. Hecht, W. Koch, and H. C. Malpass, Hercules Powder Co. *Ind. Eng. Chem. 37,* 959-63 (Oct. 1945).

Cellulose acetate and ethylcellulose as bonding agents for fabrics, paper, and asbestos show advantages over thermosetting bonding resins. Articles of complex shape are readily fabricated. The products are tough and capable of a wide range of coloring. Properties of laminates are compared with respect to the low pressure and the solvent-release, no pressure construction methods. TTD:1-46.

LAMINATED PLASTICS. Catalog of Taylor Fiber Co. Norristown, Pa. 1945; 54 pp. Reviewed in *Plastics 3,* No. 4, 78 (Oct. 1945). TTD:1-46.

SHAPED LAMINATES. B. Jablonsky. Brit. P. 568 606. *Textile Mfr. 71,* 448 (Oct. 1945).

Fabric laminates may be shaped in sections of different thickness by molding additional layers of fabric, or even of wood, to the laminate with the aid of a thermosetting resin adhesive. TTD:1-46.

SURGICAL DRESSING. Australian P. 120 204. Johnson & Johnson Pty., Ltd. *Textile J. Australia 20,* 372 (Oct. 1945).

Surgical dressings which are medicated with a sulfa drug are enabled to control the rate of absorption of the sulfa drug in the body by means of a vehicle such as glycerin in which the drug is incorporated in the dressing. TTD:1-46.

CHEMICAL RAW MATERIALS V

TECHNICAL DATA ON PLASTICS. Plastics Materials Manufacturers' Assoc'n, Tower Bldg., Washington, D. C. 1945; 163 pp.; price $1.50.

Reviewed in *ASTM Bull. 1945,* No. 136, 53 (Oct.). TTD:1-46.

WHITHER PLASTICS? H. R. Fleck. Temple Press, Ltd., London 1945; price 15s. Reviewed in *J. Textile Inst. 36,* No. 10, P166 (Oct. 1945). TTD:1-46.

CELLULOSE ETHERS. Wm. W. Koch (to Hercules Powder Co.). USP 2 389 370, Nov. 20, 1945.

Ethylcellulose for use in foils, filaments, fabrics and coating compositions or in molded plastics is improved in resistance to heat, ultraviolet light, and outdoor weather exposure by addition of 0.5 to 3% of benzylcatechol or hexylcatechol. TTD:1-46

CELLULOSE ETHERS. Walter E. Gloor (to Hercules Powder Co.). USP 2 389 354, Nov. 20, 1945.

Ethylcellulose or other cellulose ethers for use as plastics and coating compositions are plasticized with p-tertiary-butylphenoxy- or -amylphenoxy-ethyl alcohol or esters, such as acetates, of these substituted ethyl alcohols. Stability to light and resistance to weather are improved. TTD:1-46.

CELLULOSE ETHERS. Frank H. Reichel and Ralph T. K. Cornwell (to Sylvania Industrial Corp.). USP 2 388 764, Nov. 13, 1945.

Superior cellulose ethers for use in filaments, foils, tubing, capsules, artificial straw, adhesives for laminates and textile coatings, dressings or finishes are made by ethylating a low-substituted alkali-soluble hydroxyalkyl cellulose ether with ethyl sulfate in alkaline solution. TTD:1-46.

LINTERS. Cotton linters, their source, purification and uses. E. F. Hinner, Hercules Powder Co. *Chemurgic Digest; Cotton & Cotton Oil Press 46,* No. 21, A-3-4, A-9 (Oct. 20, 1945).

A review of the present state of the art in utilizing cotton linters in viscose and in cellulose derivatives. Uses in the paper industry are also cited. TTD:1-46.

TENITE-2 MELT COATING. Bulletin of Tennessee Eastman Corp., Kingsport, Tenn., 1945.

Reviewed in *Plastics 3,* No. 4, 76 (Oct. 1945). TTD:1-46.

WRAPPING FOIL. Bliss V. Every (to Can. Industries, Ltd.). Can. P. 431 367, Nov. 20, 1945.

An opacifier for ultraviolet light is incorporated in colorless, transparent, regenerated cellulose wrapping foils. Disodium salts of substituted benzamidostilbenedisulfonates are suitable opacifiers. TTD:1-46.

HEAT-SEALING CELLOPHANE. Wm. L. Hyden and James A. Mitchell (to E. I. duPont de Nemours & Co.). USP 2 388 326, Nov. 6, 1945.

Polymers of 1,2-dihydronaphthalene which are insoluble in organic solvents are readily dispersible in the customary moistureproofing coatings for heat-sealing cellophane. The resulting dispersion is not tacky in the ordinary range of handling and processing temperatures and does not interfere with the transparency of the foil. Cellophane sheets made in this way are easily handled without sticking to each other. TTD:1-46.

MELAMINE. Bull. of Am. Cyanamid Co., 30 Rockefeller Plaza, New York City 20, 1945; 24 pp.

Reviewed in *Cotton* (Atlanta) *109,* No. 10, 140 (Oct. 1945). TTD:1-46.

UREA RESINS. Gaetano F. D'Alelio (to Gen. Electric Co.). USP 2 389 415, Nov. 20, 1945.

Resins formed from urea or thiourea and formaldehyde are compounded with an amino acid such as glycine. Resins obtained in this way are particularly usefull for sizing, impregnating or coating yarns or fabrics, for flameproofing and for imparting water-repellency. TTD:1-46.

ELASTOMERS. Harry Keller (to Monsanto Chem. Co.). USP 2 388 613, Nov. 6, 1945.

Rubber-like compositions are prepared by the thermal reaction of ethylcellulose with diphenyl benzenes, certain hydrogenated esters and auxiliary resins. The products are useful for roofing, flooring, acidproof clothing, balloon fabric and many other purposes requiring a tough abrasion-resistant coating on fabrics, paper, wood or the like. TTD:1-46.

3-M ADHESIVES IN INDUSTRY. Booklet of Adhesive and Coatings Division, Minnesota Mining & Mfg. Co., St. Paul 1945; 12 pp.

Reviewed in *Modern Plastics 23,* No. 2, 172 (Oct. 1945). TTD:1-46.

ADHESIVES. Peanut protein hydrates. Utilization as tacky and remoistening adhesives. R. S. Burnett, E. D. Parker, and E. J. Roberts, Southern Regional Research Laboratory, USDA. *Ind. Eng. Chem. 37,* 980-2 (Oct. 1945).

Preliminary experiments on glues from solvent-extracted and pressed peanut meals demonstrated potential usefulness for gummed tapes, paper boxes, and book binding. The meals were extracted with aqueous NaOH at pH 7.7; proteins were precipitated by SO_2 at pH 5.1. Application to the tape was made in a viscosity range of 30-40 poises; the protein concentration was 40-45%. Advantages are uniformity, good color, low hygroscopicity, high sanitary quality. One disadvantage is a tendency to blister. TTD:1-46.

CALGON DATA FOR THE TEXTILE CHEMIST. Bull. of Calgon, Inc., Hagan Bldg., Pittsburgh 20, Pa., 1945, 15 pp.

Reviewed in *Cotton* (Atlanta) *109,* No. 10, 140 (Oct. 1945). TTD:1-46.

DETERGENTS. Nathaniel B. Tucker (to Proctor & Gamble Co.). USP 2 383 740, Aug. 28, 1945.

Certain long chain amides which are not themselves detergents greatly increase the detergent capacity of sulfated alcohols and similar surface-active compounds. For example the commercial Na alkyl sulfates of fatty alcohols derived from hydrogenated coconut oil are greatly improved in detergent effect by adding about 5% of dodecyl glycolamide or of dodecyl lactamide. A composition with high sudsing and cleansing power, having special merit for washing woolens, is 95% Na alkyl sulfate and 5% N-alkyl glycolamide, the alkyl groups in both being derived from hydrogenated coconut oil. TTD:1-46.

ESTEROL: WETTING AND REWETTING AGENT. Tech. folder of L. Sonneborn Sons, Inc. 88 Lexington Ave., New York City 16, 1945.

Reviewed in *Cotton* (Atlanta) *109,* No. 10, 140 (Oct. 1945). TTD:1-46.

SOAP. Crystalline phases of soap. M. J. Buerger, L. B. Smith, F. V. Ryer and J. E. Spike, Jr., Massachusetts Institute of Technology and Lever Bros. Research Laboratory. *Proc. Nat'l Acad. Sci. 31,* 226-33 (Aug. 1945).

Phase diagrams of pure Na stearate, Na myristate and commercial soaps reveal more phases than the 4 which have been thought to account for all the solid phases of soap. Some of the reported 4 phases are actually composites of at least 2 different phases. TTD:1-46.

WETTING AGENTS. F. R. Eastwood, N. Banks & E. Webster, Felts and Textiles of Australia Ltd. *Textile J. Australia 20,* 344-7 (Sept. 1945).

Properties of alkyl sulfates, sulfated and sulfonated oils, sulfosuccinic acid and its salts, and the alkylarylsulfonates are discussed, and illustrated with curve charts and drawings. TTD:1-46.

WETTING AGENTS. Murray Senkus (to Commercial Solvents Corp.). USP 2 389 875, Nov. 27, 1945.

New wetting agents greatly enhance potency of wool scouring baths, penetration of flax retting agents, the capacity of dye baths to give levelness of dyeings, and penetration of baths for bleaching, kier boiling and other textile treatments. They are made from branched chain aliphatic amines or cyclic amines with branched chain substituents. Examples are 1-methylheptylamine, N-(2-aminoisobutyl)-1-hendecylamine and N-(2-aminoisobutyl)piperidine. These agents are effective in concentrations as low as 0.1 to 0.6% by weight of the treating bath. TTD:1-46.

INDUSTRIAL OIL AND FAT PRODUCTS. Alton E. Bailey. Interscience Publishers, New York City, 1945; 735 pp.; price $10.00. TTD:1-46.

CHEMICAL PROCESSING VI

DESIZING. Rhozyme DX in the desizing process. Anon. *Rohm and Haas Reptr. 3,* No. 4, 11 (Oct. 1945).

Rhozyme DX is a powdered starch-hydrolyzing enzyme which retains its activity at temperatures even up to 180°F under certain conditions. It is an efficient and versatile preparation for desizing by the kier, jig, kettle and pad methods. TTD:1-46.

FINISHING. Effects of textile auxiliaries on fibers. H. C. Borghetty. Gen. Dyestuff Corp. *Textile Research J. 15,* 316-20 (Sept. 1945).

Indiscriminate use of surface-active agents in textile processing may lead to serious trouble. Detergent properties are sometimes a hindrance, e. g. in padding dyes. In the many modern processes for proofing fabrics against various influences and for applying permanent finishes the proper selection of surface-active compounds according to the need for high detergent power, high wetting capacity or high dispersing power must be specific in every case. TTD:1-46.

TEXTILE PREPARATION. Bull. of Calgon, Inc. Pittsburgh, 1945.

Reviewed in *Chem. Eng. News 23,* 1790 (Oct. 10, 1945). TTD:1-46.

WOOL SCOURING AIDED BY SODIUM TETRAPHOSPHATE. A. H. Razee, Rumford Chemical Works. *Textile World 95,* No. 9, 155, 157, 230, 232, 234; No. 10, 120-1, 123, 215-6, 220, 224 (Sept., Oct. 1945).

Comparative tests with ordinary soap scouring and with soap containing Na tetraphosphate showed that a whiter wool can be obtained, with 25-50% savings in soap consumption and increases in yarn strength up to 13%. Care must be taken to maintain the proper soap:alkali equlibrium; for this purpose the soap concentration should be decreased 25% when the amount of tetraphosphate is 10% of the original soap charge. Three varieties of wool were tested, namely, Cape, Texas and lime-pulled. TTD:1-46.

SETTING HOSIERY. E. J. Berger and H. W. Mathews. Brit. P. 568 946. *Textile Mfr. 71,* 450 (Oct. 1945).

An improvement in apparatus for treating hosiery or the like with a fluid under pressure provides a trucking means operating on tracks into the setting chamber. TTD:1-46.

MILLING PROCESS. D. R. H. Williams. *Textile Mfr. 71,* 427-9 (Oct. 1945).

Changes which occur during scouring and milling are described with respect to an ordinary fabric for men's

wear. Trials with a plastic bottom roll under a top roll covered with hard rubber show considerable promise and will be continued. TTD:1-46.

KNIT FABRIC. Sidney M. Edelstein. USP 2 389 421, Nov. 20, 1945.

Fixation of width and of mesh shape in Rashel knit fabric is accomplished by treating the fabric with a solution of cellulose in an aqueous zincate solution or in cuprammonium or other cellulose solvent. Cellulose ethers may also be applied from alkali solution and precipitated with acid. The treated fabric is washed, tentered and dried. The base fabric may be made of cotton, rayon, wool, nylon, silk or the like. TTD:1-46.

LAUNDRYFAST SIZE. Ira. L. Griffin, Dave E. Truax and Norman H. Nuttall (to Stein, Hall & Co.). Can. P. 431 272, Nov. 13, 1945.

Starch sizes for rendering fabrics water-resistant or for imparting laundry-fast finishes are deposited on the fiber in an insoluble form with the aid of a pyroantimonate or other compound of antimony. TTD:1-46.

SIZING PROBLEMS. Ed. Saerens. *Tidsskrift Textileknik 3,* 165-8 (Oct. 1945).

Formulas are presented for application of Cellcosan, Cellcosan O, and Cellosan OO to wool, cotton, rayon and blended yarns or fabrics. The Cellcosans are cellulosic finishes containing 10% water, 4% NaCl and 86% Na carboxymethyl cellulose. The different Cellcosans are obtained by varying the degree of polymerization or of substitution. TTD:1-46.

SOYBEAN SIZE is easy to apply and remove. I. G. Sanford. *Textile World 95,* No. 10, 127, 202, 204 (Oct. 1945).

A new protein size prepared from soybeans can be used in slashers for viscose and acetate rayon with only slight variations from the practice with gelatin casein or synthetic size compositions. One difference is that the first roll of the slasher need not be cloth-covered and on a 5-roll machine the last roll may also be left uncovered. The soybean size penetrates acetate rayon well and has good heat resistance. TTD:1-46.

CEGLIN FINISHES FOR TEXTILES. PREPARATION OF CEGLIN SOLUTIONS: ICE METHOD. Two bulletins of Sylvania Industrial Corp., Fredericksburg, Va., 1945.

Reviewed in *Rayon Textile Monthly 26,* 561 (Oct. 1945). TTD:1-46.

FAMOUS FINISHES. Bull. of Bradford Dyeing Asso'n, Westerly, R. I., 1945.

Reviewed in *Am. Wool & Cotton Reptr. 59,* No. 41, 63, 65 (Oct. 11, 1945). TTD:1-46.

PERMANENT FINISHES. Application of Ceglin solutions. Anon. *Rayon Textile Monthly 26,* 530-2 (Oct. 1945).

As a permanent cellulosic finish Ceglin may be applied to fabrics in a variety of ways. Coagulation may be effected by neutralizing the alkali with acid or by partial heat drying or by treatment with a strong caustic solution. Even dilution with water followed by removal of the caustic soda in boiling water will serve the purpose. TTD:1-46.

THICKENER. Carboxymethylcellulose. Uses and applications. C. B. Hollabaugh, L. H. Burt, and A. P. Walsh, Hercules Powder Co., *Ind. Eng. Chem. 37,* 943-7 (Oct. 1945).

Carboxymethylcellulose is prepared by reaction of $ClCH_2COOH$ on alkali cellulose. The Na salt, Na cellulose glycolate, is known commercially as cellulose gum and by the trade names carboxymethocel, collacel, and CMC. It disperses in water to form viscous solutions useful for their thickening, suspending, and stabilizing properties. Uses in various industries are reviewed. Textile uses include printing pastes, sizes, finishes, and lubricants. Bibliography (94 literature and patent references). TTD:1-46.

WET FINISHING. Some aspects of continuous wet processing of textiles. R. H. Brereton, Wm. Lawrence Pty., Ltd. *Textile J. of Australia 20,* 341-3 (Sept. 1945).

For successful application of continuous methods to wet scouring, bleaching or dyeing of textile fabrics the equipment must be flexible, capable of easy change from one bath to another, applicable to large or small batches, readily controllable and adaptable to uniform economical processing. In wet developing of dyes continuous methods can be adapted to a uniform exhaustion rate while avoiding substantiveness of the dye. TTD:1-46.

WORSTED FABRICS. Finishing woolen and worsted fabrics. Anon. *Am. Wool & Cotton Reptr. 59,* No. 43, 13-14 (Oct. 25, 1945).

Some factors which must receive particular attention in finishing wool goods include wrinkles caused by light or heavy fulling, or formed in washers or dye kettles; yarn irregularities; inferior stock; uneven soaping; and overcrowding the filling washer or the dye kettle. TTD:1-46.

COLOR VII

BLEACHING. Bleaching damage to cellulosic fibers. P. O. Törnkvist, AB Svenskt Konstsilke. *Textil och Konfektion 2,* No. 4, 8-16 (May 1945).

The principal source of damage to cellulosic goods in bleaching is oxidative degration of the cellulose molecule, with consequent tendering. The principal precautions for prevention of damage are to maintain acidity, temperature and Cl content within prescribed limits while taking care to prevent the introduction of

oxidation catalysts into the bath. The degree of bleaching damage can be estimated by determining the degree of polymerization of the cellulose before and after bleaching. Bibliography (26 references).

TTD:1-46.

CONTINUOUS DYEING. Pad steam continuous dyeing process. Anon. *Textile Recorder 63,* No. 751, 51-53 (Oct. 1945).

The pad steam method of continuous dyeing has several advantages and offers 2 alternative methods namely the pigment pad and the reduced pad processes. The choice between these alternatives depends on specific mill conditions. TTD:1-46.

DYEING FIBRO. Wilcock discusses rayon dyeing. C. Wilcock, Courtaulds, Ltd. *Rayon Textile Monthly 26,* 546 (Oct. 1945).

Summary of a lecture on the use of Fibrofix as an aid in dyeing and finishing fabrics containing Fibro yarn. The new agent improves the fastness of direct cotton dyes to washing, perspiration, desizing, acid cross dyeing and wet finishing treatments. TTD:1-46.

DYEING RAYON. J. H. MacGregor (to Courtaulds Ltd.). Brit. P. 568 628. *Textile Mfr. 71,* 448 (Oct. 1945).

The affinity of cellulosic rayons for chrome, acid wool, direct cotton, sulphur and vat dyes is improved by treatment with a solution of formaldehyde and a guanidine salt of an unsaturated carboxylic acid. A suitable bath contains 3 parts of guanidine cinnamate and 16 parts of 40% formaldehyde in 100 parts of solution at pH 4.5. TTD:1-46.

FLUORESCENT FABRIC. George C. Ward and Victor S. Salvin (to Camille Dreyfus) Can. P. 431 293, Nov. 13, 1945.

Laundryfast flourescent dyeings on fabrics are obtained by padding acetate type rayon with an azo dye in an alkaline formaldehyde-sulfoxylate bath.

TTD:1-46.

INDEX TO CALCO TECHNICAL BUILDINGS. Calco Tech. Bull. 761, Am. Cyanamid Co. Bound Brook, N. J. 1945.

Reviewed in *Am. Dyestuff Reptr. 34,* 432 (Oct. 22, 1945). TTD:1-46.

FACKAGE DYEING. Some recent developments in rayon package dyeing. H. A. Thomas, Courtaulds, Ltd. *Textile Age 9,* No. 10, 60, 64, 66, 68, 70 (Oct.); *Am. Wool Cotton Reptr. 59,* No. 42, 11-12, 43-44 (Oct. 18); *Textile World 95,* No. 10, 141, 224 (Oct. 1945).

A review. TTD:1-46.

REDYEING OF GOVERNMENT OLIVE DRAB. Tech. Bull. 779, Calco Chemical Division, American Cynamid Co.

Reviewed in *Rayon Textile Monthly 26,* 561 (Oct. 1945). TTD:1-46.

WOOL DYEING. Effect of variations in wool on wool dyeing. R. H. Kienle, G. L. Royer and R. McCleary. Am. Cyanamid Co. *Rayon Textile Monthly 26,* 482, 485, 541-2 (Sept., Oct. 1945).

Absorption of acid dyes by wool is accelerated by natural weathering, light exposure, chemical modification by any of several treatments, and exposure to boiling water. Absorption is retarded by oil, grease, certain chemical treatments and the resin treatment which is applied for shrinkproofing. Fulling, carbonization and oven drying have little or no effect on the rate of acid dye absorption. Bibliography (18 references).

TTD:1-46.

DYEING RAYON. T. S. McDuffey. *Textile Bull. 69,* No. 4, 34, 72-73 (Oct. 15, 1945).

Methods are described for dyeing spun rayon and its blends with vat dyes formerly employed for cotton piece goods. The continuous, pigment padding, and jig vat dyeing methods are discussed. TTD:1-46.

VAT DYEING. Multilap continuous processing machine. Anon. *Textile Recorder 63,* No. 751, 50, 58 (Oct. 1945).

Illustrated description of the du Pont multilap machine for applying vat dyes without long exposure to boiling baths and with a minimum of physical handling.

TTD:1-46.

VAT DYES. Algosols: Leuco esters of vat dyes and their applications. P. J. Choquette, General Dyestuff Corp. *Rayon Textile Monthly 26,* 535-7 (Oct. 1945).

The first Algosol, produced in 1924, was a disulfonic ester of leuco-indigo. Numerous similar esters have been produced since that time. The Algosols are especially useful for light to medium shades, fast to light and washing. They give good results on animal and vegetable fibers and may be applied to raw stock, yarn or piece goods. TTD:1-46.

PRINTING VAT DYES. Roger Ratti and Philip Brandt (to Durand & Huguenin A. G.). USP 2 388 285, Nov. 6, 1945.

Vat dye compositions for printing on textiles are improved in levelness, brilliance and dyeing power by using as the alkaline solubilizing agent an ammonium, phosphonium or sulfonium compound carrying at least 1 solubilizing group which may be OH, COOH, or SO_3H. TTD:1-46.

PRINTING. Alexis Wiazmitinow (to Sandoz A. G.). USP 2 389 245, Nov. 20, 1945.

When vat dyes are applied in the form of their leuco ester salts in conventional printing pastes, faults in fixation on cellulosic rayons are avoided by introducing into the printing paste an organic base which is stable to the oxidizing agents of the paste in absence of inorganic acids. Dyes printed from such a paste can be developed by a short steaming and yield full brilliant tints which do not bleed during soaping.

TTD:1-46.

DYEING AND PRINTING SPUN RAYON. Booklet No. 3, Aridye pigment color series, Aridye Corp., Fair Lawn, N. J. 1945.

Reviewed in *Cotton* (Atlanta) *109,* No. 10, 140 (Oct. 1945). TTD:1-46.

MEASUREMENT OF COLOR. W. D. Wright, Adam Hilger, Ltd. London, 1945; 223 pp.; price 30s, not prepaid.

Reviewed in *Am. Dyestuff Reptr. 34,* 424 (Oct. 22, 1945). TTD:1-46.

GAS FADING. Dyeing techniques can minimize gas fading of acetate. N. D. Lobar. *Textile World 95,* No. 10, 133, 190, 192, 194, 197 (Oct. 1945).

The hydrolysis method is one technique by which acetate rayon can be dyed in shades fast to gas. Properly selected acid dyes also offer good resistance to gas fading. A test method is described for checking color combinations and protective treatments.

TTD:1-46.

PROOFING VIII

DISPERSION. Stable wax emulsion. Anon. *Textile World 95,* No. 10, 150 (Oct. 1945).

News note concerning Paramul 251-A, a high wax content emulsion for imparting water-repellent and mildew-resistant finishes to fabrics. TTD:1-46.

EFFECT OF RESIN TREATMENTS ON SPUN VISCOSE RAYON DYED WITH CALCOMINE AND CALCODUR COLORS. Tech. Bull. 775, Calco Chemical Division, Am. Cyanamid Co., Bound Brook, N. J. 1945.

Reviewed in *Chem. Eng. News 23,* 1906 (Oct. 25, 1945). TTD:1-46.

MOISTUREPROOF FOILS. James A. Mitchell (to Can. Industries Ltd.). Can. P. 431 364, Nov. 20, 1945.

Regenerated cellulose wrapping foils are moistureproofed with a composition of paraffin wax 10 and milled cyclized rubber 90 parts, together with 2 parts tetraethyldiaminodiphenylmethane.

TTD:1-46.

PRESSING CLOTH. Alva T. Smith (to Sunlite Mfg. Co.). USP 2 389 216, Nov. 20, 1945.

Cloth to be used in pressing garments is waterproofed on its outer face with a wax emulsion such as Drax and punched with holes spaced at the desired intervals for admitting steam from the hot iron to the garment underneath the pressing cloth. TTD:1-46.

WATER REPELLENCY. Testing of water repellency in fabrics. Anon. *Textile J. Australia 20,* 376, 382 (Oct. 1945).

The Bundesmann test for water repellency in treated fabrics has the special merits of accuracy (within 5%), reproducibility and direct relation to performance characteristics. The test depends on exposing the fabric to a heavy rain and at the same time to frictional movement comparable to that encountered under actual wearing conditions. TTD:1-46.

WATERPROOF FABRIC. Wm. E. Hanford and Donald F. Holmes (Can. Industries Ltd.). Can. P. 431 357, Nov. 20, 1945.

Cellulosic fabrics are impregnated with an isothiocyanate of a long chain alcohol, and baked until the fabric becomes water-repellent. TTD:1-46.

MILDEWPROOFING. Protective agent. Anon. *Textile World 95,* No. 10, 150 (Oct. 1945).

News note concerning the triple-A naphthenate preservatives made by Quigley Co. as low cost mildewproofing agents for canvas, rope, bags and other products. TTD:1-46.

ROTPROOF COTTON. New fungus-proof cotton fabric. Anon. *Rayon Textile Monthly 26,* 529 (Oct. 1945).

News note concerning a partially acteylated cotton which has been successfully used as rotproof bags capable of withstanding 1 to 2 years outdoor exposure on the ground without mildew damage. The fabric was developed by Southern Regional Research Laboratory, USDA. TTD:1-46.

ROTPROOFING JUTE. R. H. McKee. Brit. P. 568 679. *Textile Mfr. 71,* 448 (Oct. 1945).

Jute fabrics are immersed first in a bath containing a water-soluble naphthenate and then in a bath containing a water-soluble salt of Cu, Zn or Cr.

TTD:1-46.

PRESHRUNK FABRICS. Carl A. Catellan (to Am. Viscose Corp.). USP 2 389 120, Nov. 20, 1945.

Fabrics can be preshrunk, both in length and width, and fixed in the specified dimensions in a form which retains its dimensional stability even in boiling water. For this purpose the filling yarn contains potentially adhesive filaments; so does the warp yarn, but of a different kind. The difference may reside only in presence or absence of a plasticizer or in a higher and a lower degree of polymerization. From 5 to 100% adhesive component may be used in the filling or warp yarn; the rest may be cotton, wool, silk, rayon, or even glass fiber. Thermoplastic filaments are preferred for adhesion since they are readily tackified by heat. Numerous combinations of stretching, shrinking and swelling treatments may be employed to produce desired dimensions and effects, which may then be stabilized by rendering the plastic component adhesive.

TTD:1-46.

SHRINKAGE. Worsted Knit Cloth Needs Dimensional Stability. Anon. *Textile World 95,* No. 9, 165 (Sept. 1945).

There are two causes of shrinkage in worsted jersey, namely the fulling characteristic of wool and relaxation of the knit loops. The latter cause bothers cutters most, but may be largely avoided by the Redman "normalizing" process. TTD:1-46.

WOOL. Frictional properties of wool fibers. M. Lipson, Australian Central Wool Committee. *Nature 156,* 268-9 (Sept. 1, 1945).

The potash treatment for shrinkproofing wool apparently differs from other methods in its mechanism, since it does not significantly decrease the directional coefficient of friction. TTD:1-46.

WOOL. Scaliness of wool fibres. J. Menkart and J. B. Speakman, Leeds Univ. *Nature 156,* 143 (Aug. 4, 1945).

New evidence confirms the conclusion that the shrinkproofing effect of benzoquinone and mercuric acetate on wool is due to changes in elasticity, not to decreased scaliness. TTD:1-46.

WOOL TREATMENTS. New developments in wool's unique virtues. Jane Morrow, Am. Wool Council. *Nat'l Wool Grower 35,* No. 10, 11, 19 (Oct. 1945).

Foremost among recent developments in wool quality are the modern shrinkproofing methods. Other improvements have been directed largely toward retaining or enhancing the natural points of superiority possessed by wool over cotton and other fibers in respect to warmth, resilience and elasticity. TTD:1-46.

UNSHRINKABLE WOOL. W. J. P. Neish and J. B. Speakman, Leeds Univ. *Nature 156,* 176 (Aug. 11, 1945).

A high shrink resistance is imparted to wool by surface deposition of inorganic high polymers, e. g. by dipping in a solution of $SiCl_4$ in CCl_4. Adsorbed water forms SiO_2 by hydrolysis. Practical applications are anticipated. TTD:1-46.

TESTING AND ANALYSIS IX

NOMENCLATURE. On this question of nomenclature. Anon. *Rayon Textile Monthly 26,* 526 (Oct. 1945).

The term "lig" is proposed to designate specific linear weight of yarns, and the term "mide" to denote its basic unit in micrograms per centimeter. With the aid of this property and its unit the present confusion in yarn numbering should be readily amenable to clarification. TTD:1-46.

SCHEDULE OF METHODS OF TESTING TEXTILES. Bull. of Canadian Government Purchasing Standards Committee, Nat'l Research Council, Ottawa, 1945.

Cited in *Silk & Rayon 19,* 1120 (Oct. 1945). TTD:1-46.

TEXTILE TESTING. Tomorrow's textiles: Yesterday's test methods. J. B. Goldberg, J. P. Stevens & Co. *Textile Bull. 69,* No. 3, 24, 26 (Oct. 1, 1945).

Enthusiastic predictions about the textiles of the future lose much of their significance in the light of present deficiencies in knowledge of textiles already old and in widespread use. Much needs to be learned about testing the textiles of today. TTD:1-46.

BALLISTIC WORK OF RUPTURE OF TWISTED BUNDLES OF JUTE FIBRE AND ITS RELATION TO SPINNING QUALITY. Technological Research Memoir 5, Indian Central Jute Committee, Calcutta, 1944; 18 pp.; price 9 d. TTD:1-46.

COTTON QUALITY. Effect of foreign matter on the grade, staple and price of cotton. Mary Anna Grimes. *Rayon Textile Monthly 26,* 527-9 (Oct. 1945).

The benefits obtained by cleaning cotton are illustrated by a chart showing the grade, staple, waste and price of uncleaned and cleaned cotton. TTD:1-46.

CONTRAST STUDIES. Use of organic contrast compounds in textiles investigation. R. N. Prince, J. Seiberlich and D. S. Eppelsheimer, Univ. of New Hampshire Engineering Experiment Station. *Rayon Textile Monthly 26,* 522-3 (Oct. 1945).

The Grenz ray technique in x-ray study of fibers was found not to give sufficient contrast. A suitable contrast agent is Iodeikon, a water-soluble organic compound with high iodine content. TTD:1-46.

EFFECT OF FOREIGN MATTER ON COTTON GRADE AND STAPLE. Bulletin of Texas Agricultural Experiment Station, Agricultural and Mechanical College of Texas, 1945.

Reviewed in *Can. Textile J. 62,* No. 21, 50 (Oct. 19, 1945). TTD:1-46.

FATIGUE TESTS. Comparative fatigue test data. C. S. Venable, Am. Viscose Corp. *ASTM Bull. 1945,* No. 136, 17-19 (Oct.).

Comparative test data show the results obtained with the Goodrich, Schopper, U. S. Rubber and Goodyear type fatigue testers. Some tests were also made with other types, including a strictly yarn-to-yarn abrasion machine. TTD:1-46.

FATIGUE TESTS. Statistical comparison of rayon tire cord fatigue testing machine. C. B. Budd, B. F. Goodrich Co. and L. Larrick, Institute of Textile Technology. *ASTM Bull. 1945,* No. 136, 19-25 (Oct.).

Results obtained with 14 different fatigue testers are subjected to statistical comparison by means of scatter diagrams. The coefficience of correlation are thus drawn between fatigue life and other properties such as breaking strength, elongation, tenacity and the break constant. The Goodrich tension vibrator was outstanding in its correlation with the other testers. Breaking strength and elongation are important factors in many of the test results but not all the fatigue results can be predicated on these 2 properties for any tester. Apparently there are other unknown factors. The tests were made with rayon tire cord and are not necessarily applicable to cotton or other textile cords. TTD:1-46.

TIRE CORD TESTS. Standard fatigue tester for use by the rayon manufacturers: Report to Committee D-13. W. H. Bradshaw, Tubize Rayon Corp. *ASTM Bull. 1945,* No. 136, 13-17 (Oct.).

No fatigue tester now existing is considered worthy to be recommended as a standard tester for rayon tire cord. Until a standard is developed and adopted the U. S. Rubber type fatigue tester will serve the industry well if its results are carefully obtained and interpreted. TTD:1-46.

YARN PROPERTIES. Yarn diameter, size and twist comparisons. Anon. *Am. Wool & Cotton Reptr. 59,* No. 43, 11-12, 49-50 (Oct. 25, 1945).

A critical discussion of results reported by Lowell Textile Institute on yarn diameter experiments. Differences between actual and theoretical yarn diameters are considered in the light of the Ashenhurst theory. TTD:1-46.

YARN NUMBERS. Integral: New system for yarn numbering. Squire Blackshaw, Quebec Provincial Arts and Crafts School. *Textile Weekly 36,* 684, 686, 688 (Oct. 12, 1945); see also *Fibre 6,* 129-30 (Oct.).

Ten advantages are cited for a proposed integral system of yarn numbering. TTD:1-46.

YARN FAULTS. Movies Employed to Trace Worsted-Yarn Defects. F. E. Cleyn, Spinners Ltd. *Textile World 95,* No. 9, 171, 226, 229-30, 232, 234 (Sept. 1945).

High speed motion picture photography is being employed to detect faults caused by slubs, fly and neps in worsted yarn. The photographs aid in tracing the defects to their source and thus are a help in prevention. TTD:1-46.

INFRARED PHOTOGRAPHY in the textile industries. Andre Page. *Fibres, Fabrics and Cordage 12,* 391 (Oct. 1945).

Infrared photography is at its best, in textile testing, in visualizing optically invisible differences on dyed fabrics for detection of impurities, or prior chemical treatments such as bleaching. Its use in color matching depends on the same capacity for revealing differences not seen by the eye. Even the warmth factor of a fabric is revealed, since infrared rays are absorbed or reflected as heat and lighten or darken the photographic plate accordingly. TTD:1-46.

QUANTITATIVE AND QUALITATIVE DETERMINATION OF COPPER, ZINC AND MERCURY IN TREATED FIBERS AND FABRICS. Bull. of Nuodex Products Co. Inc., Elizabeth, N. J., 1945.

Reviewed in *Textile Age 9,* No. 10, 129 (Oct. 1945). TTD:1-46.

RELATIONS BETWEEN THE CHEMICAL FIBER CHARACTERS AND THE SPINNING QUALITY OF JUTE. P. B. Sarkar, S. B. Bandyopadhyay and C. R. Nodder. Tech. Research Memoir 6, Indian Central Jute Committee, Calcutta, 1944; 16 pp.; price 1s. TTD:1-46.

VISCOSE. Determination of sulfur in viscose. Henry L. Barthelemy and Loveleen Williams, *Ind. Eng. Chem.,* Analyt. Ed. *16,* No. 10, 624, 1945.

Total S in viscose is determined by converting to ZnS by reaction with Na zincate; ZnS is then determined by iodine titration. Stated advantages are greater speed than the standard gravimetric method and greater accuracy than the standard H_2O_2 method. By-product S is determined by this method, after first salting out the xanthate. TTD:1-46.

ANTISEPTIC FABRICS. A suggested method for thorough testing of antiseptic fabrics. Louis C. Barail, U. S. Testing Co. *ASTM Bull. 1945,* No. 136, 25-31 (Oct.).

In connection with the manufacture of woven and knit fabrics for bacteriostatic and germicidal properties tests have been made with more than 250 candidate chemicals and only 1 group was found which would be satisfactory in laundryfastness, low toxicity, freedom from objectionable odor and staining. This group is the phenyl mercurial type of organic antiseptic. A test method was developed which gives accurate and reproducible results not only with the phenyl mercurials but also with other antiseptics. TTD:1-46.

PEST CONTROL. Anon. Evaluation of fabric pest deterrents. *Am. Dyestuff Reptr. 34,* P400-3 (Oct. 8, 1945).

A biological assay is described for the resistance of animal fiber fabrics or yarns to the webbing clothes moth and the black carpet beetle. Procedures for the excrement weight, the fabric loss and the life cycle methods are included. Details for the selection, rearing and handling of the black carpet beetle and the webbing clothes moth are given. TTD:1-46.

PEST CONTROL. Anon. Evaluation of compounds designed to increase the resistance of fabrics and yarns to insect pests. *Am. Dyestuff Reptr. 34,* P403-4 (Oct. 8, 1945).

The recommended method of evaluation covers the permanence of compounds or treatments to protect textiles from moth or carpet beetle damage, as well as their initial potency. Using the AATCC tentative test, the fabric is evaluated for insect pest resistance before and after washing, 2 dry cleanings (different solvents), wetting, hot pressing, exposure to light, abrasion, exposure to sea water and to acid and alkaline perspirations. A system of classification and reporting is presented. TTD:1-46.

WASTES X

WOOL WASTES. Sulphide wool wastes endanger sewer system. A. M. Rawn, Los Angeles County Sanitation Districts. *Sewage Works Eng. 16,* 491-3 (Oct. 1945).

Discharge of sodium sulphide into Los Angeles County

sewers by wool scouring plants employing the sulphide as a dehairing agent endangered the sewers. Research disclosed the possibility of recovering some sulphide and neutralizing the remainder. The recovered sulphide more than pays the cost of neutralization. TTD:1-46.

CLEANSING XI

DRY CLEANING. Lawrence H. Flett (to Allied Chemical & Dye Corp.). USP 2 388 962, Nov. 13, 1945.

Dry cleaning solvents containing dispersed water are particularly potent in certain kinds of textile cleaning operations, for example to facilitate the removal of stains which are both oil-soluble and water-soluble, without danger of water-spotting. Sulfonated alkylbenzene derivatives in which the alkyl groups contain 20-30 carbon atoms are highly effective aids to dispersing water in dry cleaning solvents for purposes of this kind. Substantial savings in solvent are effected since these compositions are potent at low concentrations. TTD:1-46.

HAZARDS XII

CANCER HAZARD. Preventing mule spinners cancer. Anon. *Textile Weekly 36,* 782, 785, 788 (Oct. 26, 1945).

Illustrated description of a lubrication device for spinning mules which prevents the spraying of oil and thereby reduces the hazard of cancer caused by contact of the oil with the skin of operators. Mule spinners cancer is sometimes rated as the most serious hazard to cotton spinners. TTD:1-46.

EYE FATIGUE. Harold E. Reed, Textile World. *Textile World 95,* No. 9, 151, 153, 234, 236, 238 (Sept. 1945).

Loopers and transferrers working on knitting machines need special eye tests since the normal eye examination is not suited to their needs. Special prisms set into the glasses to aid in focusing on the work may increase production by as much as 5%. TTD:1-46.

SAFETY INSTRUCTION CARDS FOR TEXTILE INDUSTRY. New series, 15 cards, 3" x 5". Industrial Div., National Safety Council, Chicago, 1945.

Reviewed in *Nat'l Canvas Goods Mfrs. Rev. 21,* No. 7, 34 (Oct. 1945). TTD:1-46.

TEXTILE MILLS XIII

LATIN AMERICAN MILLS. What the mills are doing south of the border. John C. Cook, W. R. C. Smith Publishing Co. *Cotton* (Atlanta) *109,* No. 10, 113-6 (Oct. 1945).

The Latin American textile industry is entering on a period of expansion and is in need of machinery since at least half the spinning machinery and looms are 40 years old or more. Mill practice varies from old and

even obsolete methods to well modernized equipment and methods of operation. TTD:1-46.

MILL OPERATION. Reopening a cotton spinning mill. H. Pemberton. Alder Spinning Co. *Textile Mfr. 71,* 409, 418 (Oct. 1945).

Some points to be observed in cleaning and preparing the machinery and in meeting labor requirements for reopening an idle cotton mill are presented from a record of actual experience. TTD:1-46.

MILL CONSTRUCTION. Cellular glass insulation serves textile plants. Anon. *Textile Age 9,* No. 10, 94, 96-7 (Oct. 1945).

Illustrated description of the use of foam glass insulation for roofing in textile mills. TTD:1-46.

ELECTRICAL MACHINERY. Systematized cleaning saves electrical equipment. D. L. Gibson, Westinghouse Electric Corp. *Textile World 95,* No. 10, 116-7, 200, 202 (Oct. 1945).

Illustrated description of methods for cleaning and reclaiming electrical equipment in textile mills which have been flooded. TTD:1-46.

EQUIPMENT. New equipment and materials. Anon. *Cotton* (Atlanta) *109,* No. 10, 146, 148, 152, 154 (Oct. 1945).

Illustrated news notes concerning a preboarding machine developed by Proctor & Schwartz for nylon hosiery; Paraplex P-10, a thermosetting resin developed primarily for laminates but useful also for impregnating single or multiple decorative fabrics or glass cloth; Aridye Clear 6214, an all purpose clear for pigment printing; a bobbin lifter developed by Callaway Institute for Monarch Mills; the Sylvania strobotron for stroboscopic observation of machines in motion; and picker sticks made of "Pregwood." TTD:1-46.

EQUIPMENT. Textile equipment news. Anon. *Textile World 95,* No. 9, 177-9; No. 10, 145-6, 148 (Sept., Oct. 1945).

Illustrated news notes concerning Warner-Swasey textile machines to be produced; a washer for cleaning printing blankets; the Courtaulds high speed tricot machine; an improved form of the SK Universal rotameter; wet-finishing tanks with curved sides; the Hydraxtor, a squeeze extractor to increase the production capacity of driers; the Analyte color comparator; an improved device for mounting and dismounting V-belt sheaves; the Adams TF-1 twin filter unit which requires no cleaning; fluorescent lamps coated with a moistureproof film for use in atmospheres of high humidity; a radio compensator to synchronize motor speeds for use in continuous finishing; heavy duty tire cord twister spools with plastic ends; the Line-o-Light rotor to facilitate readings of rotameters in opaque liquids; the Zurn magnetizable pipeline strainer for cleaning liquids in flow; a floor truck with accessories for handling special shapes; a recording thermometer which is not sensitive to corrosion, vibration or shock; a portable dust filter for

cleaning air; and the Sulzer loom which is a Swiss design operating without bobbins or shuttles.
TTD:1-46.

LUBRICATION. Oilless bearings aid machine maintenance. C. Mallard Bowden, Textile World. *Textile World 95,* No. 9, 159, 252, 254, 256 (Sept. 1945).

Oilless bearings have many uses in textile machinery, from opening through the finishing of the final fabric. A test run of one month showed cards, fully equipped with oilless bearings, to be in good condition. Spinning bolsters have run 4 years without signs of wear. The bearings are oil-impregnated, not actually oilless, but one of their advantages is that they help to protect fabrics from oil stains on the machines since there is no dripping or creeping of liquid oil to unwanted areas.
TTD:1-46.

MACHINES. New machinery and equipment. Anon. *Rayon Textile Monthly 26,* 553-5 (Oct. 1945).

Illustrated descriptions of hexagonal stainless steel rolls for dye kettles; the SK specific gravity indicator; the Reiner high speed tricot machine; duplex refacing stone for the Taber abraser; a heavy duty wind-up machine by Industrial Oven Engineering Co.; the Proctor preboarding machine for nylon hose, and Sylvania strobotron tubes for visual observation of machines in motion.
TTD:1-46.

ELECTRIC DRIVES. Anon. Complete electrification of Spero mills. *Textile Mfr. 71,* 435-6 (Oct. 1945).

Illustrated description of a case in which complete electrification of a mill was achieved without any loss in production during the conversion.
TTD:1-46.

MACHINERY. Electrification in textile mills. F. J. Stevenson, Crompton Parkinson, Ltd. *Textile Weekly 36,* 640, 642, 644, 646; discussion 690, 692, 694; motor selection, 698 (Oct. 5 and 12, 1945).

Postwar prospects for use of electric power in mill drives and in the heating and lighting of textile mills are discussed in the light of present and prospective facilities.
TTD:1-46.

POWER UTILIZATION. Automatic switching of shunt capacitors. W. H. Cuttino, Westinghouse Electric Corp. *Textile Age 9,* No. 10, 76, 78, 80, 82, 84, 86-7 (Oct. 1945).

Equipment for manual and automatic switching to enable textile mills to increase their output through their existing power facilities is described and illustrated.
TTD:1-46.

COLOR SCHEMES. Improvement of old factories. Colin J. Robb. *Textile Weekly 36,* 652, 654 (Oct. 5, 1945).

The correct use of color is discussed with respect to the renovation and repainting of old textile mills.
TTD:1-46.

COTTON DUST CONTROL. Tech. data file F-39. L. Sonneborn Sons, Inc. New York City, 1945.

Reviewed in *Rayon Textile Monthly 26,* 561 (Oct. 1945).
TTD:1-46.

LIGHTING FOR COTTON. Bulletin of Crompton Parkinson Ltd. 33 Cross St., Manchester 3, England; gratis.

Reviewed in *Cotton* (Manchester) *51,* No. 2477, 5 (Oct. 13, 1945).
TTD:1-46.

MILL LIGHTING. Modern industrial lighting. J. B. Ashworth. *Textile Weekly 36,* 734, 736, 739-40, 742 (Oct. 19, 1945); discussion 700, 702 (Oct. 12); 790, 792 (Oct. 26.).

A lecture on incandescent and fluorescent lighting in textile mills, and the relation of correct lighting to operating efficiency and the morale of employees.
TTD:1-46.

MILL ATMOSPHERES. Atmospheric conditions in cotton textile plants. Philip Drinker, Harvard Univ. *Textile Bull. 69,* No. 3, 17-18, 20, 22 (Oct. 1, 1945).

Mill atmospheres and dust control are studied from the standpoints of occupational hazards and fire hazards and of employee relations.
TTD:1-46.

CONTROL. Quality control with control instruments. Henry Miedendorp, Jr. *Rayon Textile Monthly 26,* 547-9 (Oct. 1945).

An important feature of quality control in textile manufacture is to control machines so that no sudden excessive strain is placed on yarn or thread when the machine suddenly starts. Instruments for moisture control in warps, for automatic control of dye baths and for combustion control to save fuel are also discussed.
TTD:1-46.

HEAT CONTROL. Use of tantalum in heat-recording devices. C. C. Downie, *Silk & Rayon 19,* 1096-7 (Oct. 1945).

In apparatus for recording and control of process temperatures use of a protective tantalum sheet permits the employment of much thinner metal then would otherwise be required for the tubing used in the instruments. In certain rayon processes a tantalum candle heater has been found useful. In this heater the tantalum is separated from all base metal parts by gaskets. The rayon industry is one of the largest consumers of tantalum.
TTD:1-46.

WATER FOR DYEING. Progress in water treatment for textile dyeing. S. F. Alling, Hungerford and Terry, Inc. *Rayon Textile Monthly 26,* 543-6 (Oct. 1945).

A review of progress in methods and reagents for water purification for textile processing from 1900 to 1945.
TTD:1-46.

TEXTILE RESEARCH XV

TEXTILE RESEARCH. Value of fundamental research to the textile technologist. Henry Eyring, Princeton Univ. and Textile Foundation. *Rayon Textile Monthly 26,* 519-21 (Oct. 1945).

The theory of plastic flow, the fundamentals of slippage between molecules of textile fibers and the factors involved in fiber strength are among the problems of fundamental research needing attention for the benefit of the textile industry. TTD:1-46.

TEXTILE PROGRESS. German textile developments. *Textile Bull. 69,* No. 4, 27-28, 30, 33, 68-69 (Oct. 15); *Textile World 95,* No. 10, 139, 206, 208, 210, 212, 215 (Oct.); *Fiber and Fabric 98,* No. 3167, 6, 14-15 (Oct. 13); *Am. Wool Cotton Reptr. 59,* No. 41, 43, 45, 47; No. 42, 13, 42 (Oct. 11, 18, 1945).

A summary of the reports brought back by the first textile team from its mission to Germany for the Office of the Quartermaster General. Papers by Lt. Col. Kennedy, QMC, introduction; Joseph P. Meierhans, J. P. Stevens & Co., organization and research; M. Earl Heard, West Point Mfg. Co., rayon pilot plant (a description of the Zellwolle Lehrspinnerei); John F. Hagen, Callaway Mills, utilization of bast fibers; Frank S. Richardson, Waldrich Co., dyeing and printing; Werner von Bergen, Fortsmann Woolen Co., woolen and worsted; Lloyd L. Leach, E. I. duPont de Nemours & Co., filament rayon and staple fiber. TTD:1-46.

WOOL RESEARCH. Research as an investment. George G. Hopkinson. *Wool Record & Textile World 68,* 665, 667, 669, 671 (Oct. 18, 1945).

A lecture on the need for research in the wool industry. Technologically the industry is not backward, but neither is it sufficiently forward. TTD:1-46.

TEXTILE RESEARCH DEPARTMENT. Booklet of Am. Viscose Corp. 350 5th Ave. New York City 1945; 32 pp.

Reviewed in *Cotton* (Atlanta) *109,* No. 10, 140 (Oct. 1945). TTD:1-46.